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OUR ILLUSTRATIONS.

The British School, Valle Giulia, Rome. Bird's-eye view, plans, and front elevation. Mr. Edwin L. Lutyens, A.R.A., F.R.I.B.A., Architect.
No. 95, Sloane Street, London, S.W. General view and detail of entrance, with two photographs of the Pavilion Road annexe at the rear. Lieut. Ambrose Poynter, F.R.I.B.A., Architect.

Currente Calamo.

It is instructive to note how in the British Dominions overseas the questions of architectural education and legal restriction of the right to practise architecture are being discussed by our professional brethren of the Empire much as they have been here for a generation, but with differences of standpoint and recognition of need due to differing circumstances. In Canada, for instance, as detailed on another page in an interesting and thoughtful paper read lately by Mr. J. P. Hynes at the Annual Conference of the Royal Institute of Canadian Architects, the present grievance is that alien architects are depriving Canadian architects in Ontario, and apparently elsewhere, of the employment they naturally expect when properly qualified and ready to work. Little such discouragement has affected architects here, but in Ontario it seems to have been prejudicial to their interests, and the feeling is evidently growing that a country should develop its own power and material resources for its own benefit rather than for that of aliens. It is suggested by some that a Customs duty on architectural drawings might arrest the inrush of the alien, but that seems to us doubtful. It seems, moreover, to be the case that even where architectural registration has been legalised—as in Quebec, Manitoba, and Saskatchewan, which, together with ten of the United States, have adopted some form of licence or registration—the alien still finds his way into the ranks of the profession. However, we shall do well to keep our eyes on the further developments probable in Canada, meanwhile not failing to observe that there, as here, so far, the jealousy of local interests seems to have impeded action that is being vigorously demanded. Perhaps we here who have so far been similarly discouraged, for obviously like reasons, will do well to mark the effect of any move in the direction of demanding State recognition for Ontario and watch the result, whether it is granted or refused, in deference to the privileges of other professional bodies.

We regret to learn that the Australian Federal Parliament has decided to defer

the establishment of a Chair of Architecture at the University of Sydney, N.S.W., till less troublous times. As our readers know, the proposed establishment was to be to the amount of £2,000 a year; one professor at £1,100, one assistant at £250, and apparatus £650. The student desiring to enter the University was to be required to furnish a leaving certificate from the high schools or pass an examination in the following subjects:—Mathematics (trigonometry plane), algebra (binomial theorem, geometry), English, French, or German, ancient or modern history, elementary plane and solid geometry, elementary physics, elementary chemistry, elementary freehand and model drawing. The suggested subjects for the course were:—

First year.—Architectural drawing, freehand drawing, elements of architecture, elements of design, descriptive geometry, shades and shadows, perspective, physics (light, heat, electricity), inorganic chemistry (quantitative), mathematics, geology, construction. Second year.—Architectural design, freehand drawing (antique), water-colour drawing, architectural history, construction, mathematics, petrology. Third year.—Freehand drawing (life), architectural history, architectural design, historic ornament, construction (including graphic statics), water-colour, sanitary science, mathematics. Fourth year.—Design, freehand (life in colour), water-colour, pen and ink rendering, history of sculpture, history of painting, professional practice (including ethics, jurisprudence, and business), special lectures (including town planning). In an anticipatory article in the *Sydney Sun* of November 4 Mr. G. Sydney Jones, A.R.I.B.A., hon. secretary and past-president of the Institute of Architects, remarked that, while naturally an Australian would be preferred, the next preference should be given to an Englishman, as few foreigners understood the British ideals and fewer still could gauge the ideals of Australian democracy.

The possibility of the existing Colonial Office in Downing Street being utilised, after the war, for the purposes of the newly-created Commercial Intelligence Department is being discussed officially. It was not until the outbreak of the war with Russia that a Secretary of State was

appointed in order to relieve the War Office of the colonial business, which up to then it had transacted. The present edifice dates from the period when the new Government buildings were begun, but not completed, from the designs of Sir Gilbert Scott, at a time when some of the old places in Downing Street, particularly the Foreign Office, were in an almost ruinous condition. Within recent times the business of the Crown Agents for the Colonies has been transferred from Whitehall Gardens to new premises at Millbank, and presently the Colonial Office may be housed in other quarters, one would expect, with a more appropriate name and in a new building worthy of the younger members of the Empire certainly no longer "Colonies"!

Once again the utter failure of the Land Taxes to realise Mr. Lloyd George's rosy expectations is painfully manifest! The finance accounts for 1916-17, which were issued last week, show that there has again been a loss on the Undeveloped Land Duty. The gross receipts during the year have amounted to £68 19s. 2d., and the repayments to £265 6s. 11d. Thus the repayments in excess of receipts come to £169 7s. 9d.—a dead loss of that amount to the Treasury. If to this we add the cost of collection and administration the total loss must be considerably increased. The stupidity of continuing taxes which cost more than they produce, especially at a time when we are faced by the certainty of additional imposts, is patent to all but their originators. The annoyance and irritation incident to obtaining repayment of taxes which, as the reimbursements prove, were not legally due, is arousing more discontent than all the pestilential piffle of the pacifists.

Mr. Frank H. Haukinson, the President of the Bournemouth Chamber of Trade, points out that there is ground for complaint by commandeered property owners against the Lands Branch of the War Office. They induce owners to sign an agreement on Army Form W.3005, and having signed it, owners find themselves, as regards a claim for dilapidations at the end of the tenancy, faced with the choice of accepting what the

War Department Land Agent offers or proceeding by Petition of Right. The Department has steadily refused arbitration. Property owners should organise for the protection of their own interests. A Government Department treats an individual with scant consideration, but it is more amenable to an organised body. Mr. Hankinson is endeavouring to organise property owners in his district, and it is expected that a powerful association in connection with the Chamber of Trade will be formed. If this were done in every town, and the local associations linked up with one of the existing central associations, or a new central association to be formed, the property owners of the country would exercise the influence which their numbers and the extent of their interests warrant.

The prescriptive privileges of the legal profession are certainly extensive and peculiar. The position of counsel and solicitors is well protected by the law, while, amongst themselves, they have a trade union which must be the envy of the Labour Party. But, now and then, the rights of the public, as suitors in the Courts, do get a chance. This was shown in the recent curious case of "*Kinnell and Co. v. Harding, Wall and Co.*," in which the plaintiffs, described as a limited company, sued in the Southwark County Court to recover £63 odd. After somehow letting judgment go by default, the defendants woke up and applied for a new trial. There were various proceedings, but the great point taken by the defence was that a company could not appear in the County Court except through and by a solicitor; and, as the plaintiffs had employed an ordinary agent who was not a lawyer, the whole proceedings were therefore void *ab initio*. The County Court judge reserved this precious point, and after consideration decided it against the defendants, who then appealed to the High Court. After full legal argument there, judgment was given dismissing the appeal. It was stated that the case was important in these days of many limited companies. In the High Court a party could only appear and be heard either personally or by his solicitor and counsel. But in the County Court the judges had made a practice of allowing a party to be represented by an ordinary agent, although he was not a solicitor. Indeed, one rule provides that any act that may be done by a party can also be done either in person or by his solicitor, or by any other agent. "Person" includes a corporation or a company. The judges finally held that a company could be represented in the County Court by an ordinary agent, and they declined to hold that he must be a solicitor. The result of an opposite decision would have been to compel companies when suing in the County Court always to employ and pay a solicitor to do so, even when very small costs, if any, could be recovered.

A great scheme, calculated to save £100,000,000 a year, and which may exer-

cise a profound influence on the future of British industry, is put forward in an interim report which has been made by the Coal Conservation Sub-Committee to the Ministry of Reconstruction regarding electrical power supply in Great Britain. The sub-committee proposes to supply all industries with electrical power generated at big super-power stations, not more than sixteen in number for the whole country, and to eliminate or combine all smaller stations. Dr. Addison, in a preface, states that the report raises important questions affecting municipalities and public bodies. The proposals will be explored by the Government before any action is proposed to Parliament upon the subject. In its legislative aspect the whole matter is being investigated by a committee appointed by the Board of Trade, and presided over by Sir A. Williamson, M.P. Certainly it should include gas as well, and deliver us from the gas monopolies and save us the heavy cost of the carriage of coal from the pits to London and other large centres of consumption, and give us clear skies once more and smokeless and fogless cities.

The 50th and Special Christmas Number of *Berger's Mercury* is indeed a fine one, and adds another laurel leaf to the chaplet of the world-famous Homerton firm of Lewis Berger and Sons, Ltd. Angus R. Walbrook's stirring article, "Carry On," is real stuff of the right sort, and the managing director's "Tribute" to the loyalty of his bold band of workers is good to read. Naturally, the House of Berger is worthily doing its not inconsiderable part in the dual rôle of fighter and financier. 229 Berger good men and true are with the Colours, and the few that remain—despite restrictions and shortage and every kind of obstacle—have managed to beat all previous records. All congratulations to those makers and bearers of the colours that never fade and the varnishes that never tarnish!

Mr. Thomas Hardy's new volume of poems, entitled "Moments of Vision," published by Macmillan and Co., will be welcomed by all lovers thereof in this time of dearth of real poetry. The title poem indicates its scope, seizing the moment when self-realisation, disillusioning and callous, comes as

That mirror
Which makes of men a transparency
Who holds that mirror
And bids us such a breast-bared spectacle see
Of you and me.

Many will read with appreciative recognition the poem "Heredity," in which the persistence through generations of the family facial lineaments is sung:—

I am the family face;
Flesh perishes, I live on,
Projecting trait and trace
Through time to times anon,
And leaping from place to place
Over oblivion.

The family feature that can
In curve and voice and eye
Despite the human span
Of distance—that is I;
The eternal thing in man,
That heeds no call to die.

URBAN TRAFFIC.

The problem of the regulation of urban traffic has in many ways so close a connection with architecture and building that it is discouraging to reflect that those charged with the provision of increased facilities for transport have utterly neglected to take into their counsels those of us who are affected by the increase of traffic of late years, which is still more likely to embarrass us all in the near future. The result of this neglect has undoubtedly been the divergent conclusions and recommendations of commissions appointed to consider the problem, who seem to have been utterly ignorant of the basic principles on which the science of transportation is based, and to have ignored the fact that traffic of all descriptions conforms to certain natural laws, which may or may not be apparent, but which, once apprehended, offer certainty of result as contrasted with the piecemeal remedies which have mostly left matters worse than when they were conceived or promulgated.

What is the ideal at which all road reformers should aim? Surely, speed without offence; in other words, that every one should strive to get over as much ground as he can cover without exhibiting himself as a road-hog. This ideal, so far, has been utterly ignored by Parliament and successive Governments. Before the advent of the motor-car and the bicycle, road offence, at any rate in England, was a rare misdemeanour. With the arrival of the motor-car our legislators and administrators lost their heads. They have treated the motor-car and its kindred terrors as dangerous animals, which the public had to avoid as such, instead of treating them precisely as other vehicles and moving items of traffic, pedestrians included, are treated; and, thanks, as well, to the inherent brutality of the human race, the motor-driver has realised speed but scorned inoffensiveness. That trouble, slaughter, and damage followed, has been a matter of course, and all of it is largely attributable to the law itself, which turned civilised man into a savage by enjoining him to yell, like any other wild beast, as he approached his victims.

We have nowhere seen this so clearly pointed out as in a little book just published by Messrs. Crosby Lockwood and Son, of 7, Stationers' Hall Court, E.C., at 3s. 6d., by the late Lieut. H. W. D. Stone, who was killed in action in April, 1916. The publication has been arranged by his family, and the volume will rank as a more useful memorial of his self-sacrifice than those erected to not a few other of his brother heroes. The subject seems to have been a matter of deep study by its author, while in India and on his return from the East in 1913, and is treated with admirable lucidity throughout. Man, as Lieut. Stone points out, follows, like other animals, the line of least resistance, and any scheme of traffic regulation that ignores that prime law is bound to fail. All our schemes have failed. It is curious to note at the outset how the coming of railways reversed things. Before their introduction traffic difficulties were principally in connection with the bad country roads. Today it is easier to travel over twenty miles of country than ten of town, simply because of the enormous increase of traffic precipitated into the towns by the railways. Yet still, as of old, as in all countries—Venice, perhaps, excepted—the roads are the main arteries for urban

traffic; and still, as of old, to the lack of success in road planning, the extreme congestion of traffic, especially in the older parts of populous towns, is due. Indirectness, bad grading, congestion, and road resistance—that is, bad surface—still impair the “facility value” of all our roads. The various causes of obstruction are admirably indicated by Lieut. Stone and instances given under each head. For example:—

As an instance of the evils of convergences, it was shown by count in London that the volume of traffic passing the Marble Arch, Hyde Park Corner, and Charing Cross was in each case greater than that passing the Bank of England, and as the congestion in London is greatest at the latter point, this fact created general surprise. A slight consideration will, however, show that the reason why the volume of traffic is greater at these points than at the Bank is that it is a physical impossibility, on account of the varying directions of the streams, for more traffic to get through, and in confirmation of this it was also found that the aggregate time of the stoppages undergone by traffic at the Bank was considerably greater than at any other point taken. Did more facility for passing the traffic through exist, the volume there would enormously increase. It is merely held in check by physical limitations.

And yet in London all the newest roads—Queen Victoria Street, Shaftesbury Avenue, Aldwych—have all either added to or formed convergences, and so largely discounted their utility. Had the above principles been understood, this could hardly have happened.

If we take a convergence of six roads and divide it up by means of a kerb into two sets of three, we have in place of the former original twenty-four conflicting streams only six, viz., two sets of three. It is true that the three north roads, let us say, cannot communicate here with the three south; but what previously was an intolerable clot becomes comparatively free flowing, while the north and south traffic has to find its intercommunication elsewhere.

Dealing with the formation of roads, Lieut. Stone next examines the need for a stable surface, pointing out that the sides of roads are more important than the centres as regards efficiency, whereas—as any observer must have noticed—the reverse obtains in practice. He goes on to consider the need for artificial regulation of traffic and the manner in which it should be applied. In continuation he grapples with the special problems of goods traffic, the solution of which some insist absolutely demands either the total abolition thereof or the limitation of the use of the roads to the nocturnal hours. Really what is wanted is considerate control. There are certainly classes of goods traffic that might easily be legislatively controlled, but we should hesitate to entrust the task of the framing of the necessary laws to the House of Commons! Lieut. Stone shares that hesitation, as expressed on p. 67, and it is little wonder.

The design of vehicles, as emphasised in chapter viii., is a matter of the utmost importance if ultimately efficiency is to be secured. So far nobody has attempted to design a bus or tramcar from a traffic standpoint. In principle the exit at the side of the car is wrong, and causes the car to occupy more than its width of the road just at the time when—at a standstill—it is most obstructive. That, of course, is mere blind imitation of the old omnibus, in which the position was right enough, as the omnibus obeys the rule of the road. The motor-bus is also faulty in design. In the old horse-bus the driver was placed well above the traffic, and could see yards ahead. In the motor-bus the driver is placed as near the ground as possible, where, for the most part, he can only see the vehicle immediately in front of him.

Chapter x., on urban railways, is a

very valuable one. It details instructively the reasons for the victory of the road vehicle over the old suburban railway, with its bad service and slow speed and wretched carriages, and suggests the means by which matters may be improved and the present financial failure of London's urban railways avoided.

In chapter xii., perhaps the most important one in the book, the safety of the pedestrian is considered, and it is shown, in our opinion conclusively, that the yearly increasing increase of street accidents is due to legislation on wrong principles. So far the authorities have sought to enforce two means of restraint—one physical, such as refuges, and police standing in the road and partially or completely blocking the traffic; the other consisting of speed limits, and the obligation on the driver to give audible notice of his approach. Now, the noise obligation, beyond all doubt, has given the motorist the idea that the road belongs to him, and that the pedestrian must get out of his way. So he dashes past crossings at full speed with merely a preliminary hoot, instead of slowing his pace to the limit of his braking distance until he is satisfied the road is clear. No motorist hoots at a refuge, or even a tramcar—he knows it would be futile—but the pedestrian is fair game. If the motorist had no horn he would have to avoid the pedestrian as he would any other obstacle, and far fewer people would be killed. With regard to refuges, we agree that real safety for pedestrians is only attainable by the subway or overbridge. Why the latter has not been made compulsory for street traffic, as it was long ago for the railways, we have never been able to understand. Years and years ago we have described and illustrated schemes quite practicable and quite devoid of unsightliness. As Lieut. Stone says:—

There would be, or need be, no greater eye-sore under reform than the railway bridge at Ludgate Circus in London without it; in fact, art and utility are each other's handmaid. An artistically laid out town will probably be better from a traffic point of view than an artistic one. And though, no doubt, architects and artists might make traffic mistakes from an economic point of view, their sense of proportion would prevent their doing harm to traffic as is so often done by the utilitarian engineer. True art and true science must go together: it is in proportion as they are false that conflict becomes noticeable.

Of course, in any such reforms as are suggested, the present difficulty is to decide who is to enforce their enforcement? The present confusion of authorities is terribly perplexing. It is suggested that the police authorities and the borough officials would be at loggerheads, as indeed they mostly are at present. There is much to be said for the conclusion arrived at that:—

The difficulties are almost insuperable under present conditions, where there is no expert knowledge or the responsibility which it would engender. There is only one means as it appears for advancing in this matter, and that is for towns to appoint traffic experts, who would be responsible for the proper conducting of the traffic and have all the powers necessary for that end. At present none such exist, nor is there any school where the principles can be taught; so that the remedy seems rather hopeless. But assuming the expert in being, his function would be to supervise everything that had to do with the roads and traffic on them, exits from houses, encroachment permits for building, central obstacles, breaking up streets, paving and repairs, point police, and so on, while he would, of course, make all the recommendations as to the actual lay out of roads, such as widening, etc. His powers would merely be consul-

tative, but in practice his employers, like all sensible employers, would be guided by the advice of their expert, and the position would be extremely responsible. The situation would be akin to that suggested by the Royal Commission for London of a Traffic Board. And, again, why London alone of all towns should have its traffic advisers, while Glasgow, Liverpool, Manchester, and so on should not, seems unreasonable. Allowing for their not being in such straits at present as London, on account of their smaller size, with the normal growth they may even surpass London's difficulty in time, on account of the greater tram operation. Now is the time to take their problems in hand, before they become unwieldy. In nothing is the old adage more true than in traffic that “prevention is better than cure.”

We suppose those responsible for our present wretched régime would scout the idea; but there is, we think, sound sense in it. Anyhow, it is that which guides railway companies, dock corporations, and the like, who all employ traffic managers, and not their engineers, to control traffic. Probably, too, as suggested, the establishment of a Chair at some university would be a move in the right direction. Thus we might get the principles advocated examined, compared, and tested before generally adopting them. The public themselves would certainly require a certain amount of education before adapting themselves to new conditions, and any attempt at wholesale root and branch reform would probably only be followed by failure and disaster. “Go gently, but keep on going,” is Lieut. Stone's advice, and it is well timed. We hope his book will be read as widely as it deserves.

REGULATION OF PROFESSIONAL PRACTICE IN CANADA.*

(By J. P. HYNES.)

The questions of architectural education and of legal restrictions on the right to practise architecture have agitated the architects of the English-speaking world for more than a generation. To-day the question of a college educational course is practically conceded on all sides, while the question of legal restrictions is slowly taking form in actual legislation in at least ten States in the American Union, and was before the Imperial Parliament when war broke out. In Ontario ten years ago these questions were discussed with considerable feeling, and for the time settled in favour of promoting education and dropping legislation, the expectations being that the educational institutions would then fulfil the reason of their existence and supply the province with trained men to handle its problems. However, the constant and growing usage of alien architects erecting most of the larger commercial buildings of the province has raised the whole question again, and the following is an attempt to state the present situation and point to its remedy.

ALIEN ARCHITECTS HAVE PRACTISED FOR 35 YEARS.

On investigation, it was found that alien architects have for at least the last thirty-five years almost continuously practised in Ontario on a large number of important buildings, as may be instanced by the following examples:—

Starting with the Western Assurance Company building in Toronto, there has followed in almost continuous succession the Canadian Bank of Commerce, Toronto; the Bank of Hamilton, Hamilton; the Ontario Parliament Buildings, Toronto; the Toronto Board of Trade, the Bank of Hamilton Building, Toronto; the Bank of Toronto Building, Toronto, and St. Catharines; the Imperial Oil Company's building, Toronto; two buildings for the Robert Simpson Company, and three for the T. Eaton Company in Toronto, and one in Hamilton. At the present time there is under construction or

* A paper read at the Annual Conference of the Royal Architectural Institute of Canada at Ottawa.

about to be erected in Toronto the T. Eaton Company Warehouse, the T. Eaton Company's Departmental Stores, the Wm. Davies Company abattoir, and buildings for the Brown Bess Company, the Goodyear Tire Company, the proposed Devonshire Hotel, and several theatres; while throughout the province there are the International Nickel Company's buildings, Port Colborne; the Dominion Government Arsenal, Lindsay; Dominion Government explosive factory, Renfrew; Dominion Government explosive factory, Trenton.

The effect on the resident architects is that it is depriving them of the opportunities that the province naturally affords them, and which, if they enjoyed, would bring them such recognition that there would be little thought of bringing aliens into the province.

DISCOURAGES YOUNG MEN.

The effect on the practice of architecture in the province is to discourage the resident practitioners and drive the young men graduated from the University from the province, and create a strong tendency to a low standard of practice by introducing unfair competition, as very frequently the alien practitioners practice on a purely commercial basis, even to the extent of association with the contractor in such a way as to make it appear to the client that the architects' services are of such little consequence that they are thrown in by the contractor.

Through the personal agitation of a number of architects and builders, considerable comment on the number of alien architects practising in the province appeared in the papers, noticeably the trade journals, and was eventually discussed at an executive meeting of the Toronto branch of the Canadian Manufacturers' Association. This led to an interview between the President of the above association and the President of the Ontario Association of Architects, after which the former, on behalf of his association, convened a meeting of representatives from the Toronto branch of the Canadian Manufacturers' Association, the Ontario Association of Architects, the Toronto branch of the Canadian Society of Civil Engineers, and the Toronto Builders' Exchange.

After considerable discussion it was determined to jointly memorialise the Dominion Government, to bring to its attention the extent to which alien architects and contractors were doing business in Canada, and that even the Government itself had given the erection of the new arsenal at Lindsay to aliens, and a memorial was prepared for presentation to the Government.

MEMORIAL TO GOVERNMENT.

In drafting this memorial many suggestions were deliberated upon; some were realised to be impracticable and others were deemed inefficient, as may be illustrated by the two following cases:—

It was considered that if there was the same legislation to prohibit American architects practising in Canada as there was thought to be prohibiting Canadians practising in the United States it would be a satisfactory method of control. Upon direct correspondence with Washington it was learned, however, that the legislation restricting aliens entering the United States excepted members of the learned professions, and that the Department of Emigration at Washington had ruled that any architect while residing in his own country and holding a certificate of graduation from a recognised university, or of good standing in a recognised society of professional architects, might practise in the United States, subject to State licence and registration laws. It may be observed in passing, however, that this permission extends only to the individual who is a member of good standing, and not to his staff of employees.

The other was to control the practice by Customs duties, and was discussed with the Customs expert of the Canadian Manufacturers' Association. The present duty is 22½ per cent., plus a war tax of 6½ per cent. on 4 per cent. of the cost of the building, which is evidently too low to act as a deterrent on the employment of alien architects, and is easily avoided. A duty high enough to be a deterrent was deemed impracticable to obtain

or administer, as well as being too easily subject to change. The duty on architectural drawings has been in several different forms in the past few years.

Legislation controlling the practice of architecture has been in force in Quebec for twenty-six years, and more recently in Manitoba and Saskatchewan, and in ten of the United States. Starting with Illinois in 1900, New Jersey, California, New York, Utah, Florida, Colorado, Michigan, Louisiana, and North Carolina have since adopted some form of licence or registration for architects.

It is understood that many architects in the States, where licence laws are in force, are disappointed at their lack of effectiveness in improving the status of the practice of architecture, and that the advancement in that direction was more attributable to the increasing number of architects who took university courses of training. It is also evident that the Quebec, Manitoba, and Saskatchewan Acts have not been effective in protecting resident architects in their respective provinces from undue alien competition.

The model for such legislation before the Ontario Legislature would undoubtedly be the Ontario Medical Council Act, which licences medical doctors to practise in Ontario, but the experience of the Ontario Association of Architects ten years ago, and graduate nurses and others that have since sought legislation on these lines, indicates that the objection that such legislation is close corporation legislation would defeat any effort on these lines, as there is not sufficient parallel between the practice of medicine and architecture to ask that legislation similar to that given to the doctors be given to the architects.

It is primarily for the protection of the public that the doctors are licensed, and there appears to be no better way, as doctors must act instantly. The public, however, are most effectively protected in their relations with architects by laws on sanitation and construction, and it is no hardship to the architects to practise under these laws.

STANDARD OF QUALIFICATION.

Out of this question of licensing arises the question of a standard of qualification which should be required for the practice of architecture, or, in other words, what standard of education should be required? The standard of education to-day is not that of a certificate from an examining or licensing board, but that of a course in architecture in a recognised university, and from this arises the question, "Whose duty is it to provide the university course?"

This was found in the principle put forward at the time that the Ontario Association of Architects withdrew its bill for licensing in deference to the contention of the University of Toronto that to licence by examination without a course of tuition could set up a low standard of education for architects in Ontario and at the same time be detrimental to the advancement of the university courses in architecture.

"The principle was that as the province needs men of training to handle the problems of the community, it devolves upon the province to provide the means by which such training may be obtained."

That the province admits its responsibility in this is evidenced, in fact, by its whole educational system, but especially by its higher educational and university courses.

PUBLIC HAS CONFIDENCE IN SOME PROFESSIONS.

In looking into the status of the various professions trained in these courses in this province—namely, medicine, law, dentistry, pharmacy, pedagogy, veterinary, surgery, engineering in its many branches, architecture, chemistry, and in the many other branches of technology—it was observed that medicine, law, dentistry, pharmacy, and pedagogy enjoyed the confidence of the people of the province, even to the extent of a pronounced pride being evidenced by the public that not only was the rank and file of these callings of a high standard, but that many in them attained to eminence in their professions; and it was also observed that the people of the province did not resort to non-resident and alien practitioners in these

callings. The legislative restrictions accounted directly for the latter, and indirectly for the confidence and pride the public evince.

ARCHITECTS A LESS FAVOURED GROUP.

It is evident that in a province like Ontario there is sufficient practice in every one of the professions named for men of ability to attain distinction, and that in those professions that had the opportunities of the province conserved for them many men of distinction were constantly in evidence, but that in such professions as did not have the opportunities conserved for them the men of distinction were not so numerous, and that the alien practitioners were always evident. Examining the situation under that light, it became evident that architects are one of the less favoured group, and that their grievances are shared by all practitioners of technology.

The conclusion evidenced by the above is that the Government, to attain the object of its higher education in technology—namely, to provide the province with men of training to serve the community, and in whom the community may have confidence and pride—must conserve the opportunities of technical practice that develop in the province for the resident practitioners of such technical work.

It develops into a choice of raising the practitioners of technology in the province to the high standard that the educational facilities now provided by the province for them would, under favourable conditions, permit them to attain, and which have been attained in the professions that have their opportunities conserved for them, or of having these educational advantages in technology and the opportunities for technical practice of this province exploited by students taking the course provided in this province, and immediately departing to devote their energies to other communities, and by aliens, non-resident and untrained practitioners exploiting the technical opportunities of this province.

A COUNTRY'S RESOURCES FOR ITS OWN BENEFIT.

To allow the present conditions to persist is a flagrant breach of the economic principle that a country should develop its manhood and material resources for its own benefit rather than for the benefit of aliens. In a word, it may be stated that it devolves upon the province not only to provide the means to train men to serve the communities' need in technical work, but to make that training effective; it also devolves upon the province to conserve the opportunities in the practice of technology in the province for the resident practitioners.

This may be done by the Government establishing in the Department of Education a registrar who shall register all present resident practitioners in technology, all graduates in technology from the universities of the province and such others who on becoming residents of the province comply with the provisions set out in an act which would control in this province the practice of technology in all its branches.

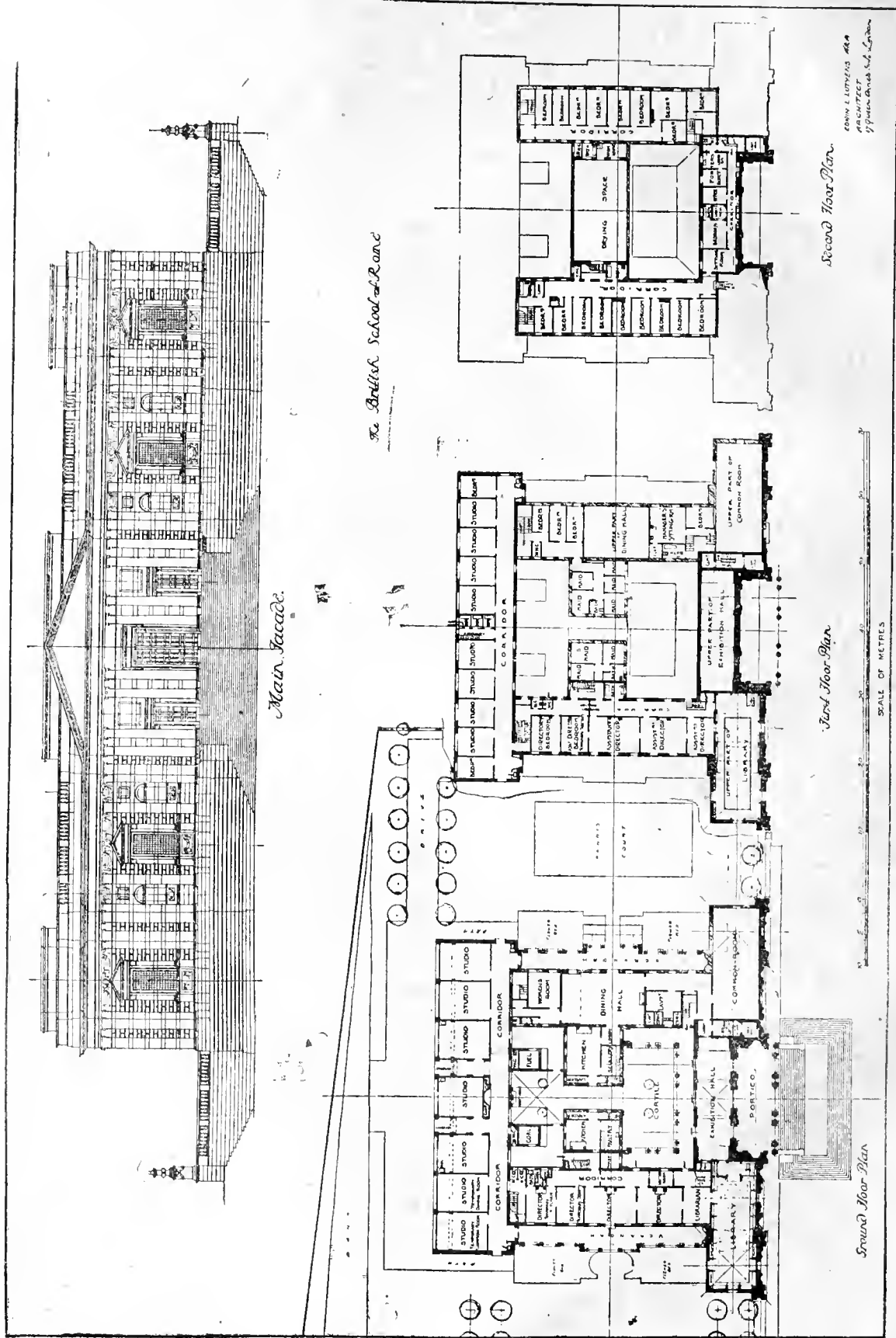
The advantages of legislation on these lines is that it keeps the control entirely in the hands of the Educational Department of the province and at the same time makes the educational facilities of the province efficient in results as they now are in training.

It eliminates all professional boards of examination or licence and maintains but one standard of education on which to practise, namely, a recognised university course.

DISCUSSION.

A long discussion followed. Mr. A. F. Wickson said that Mr. Hynes' idea seemed to be that if there were a school of architecture in the universities, and if the Government were to legislate, the only people who could practise in Ontario would be those passed by that Board of Education, and not by a Board of Architects, or some outside body, which would largely tend to obtain the ends desired. Some Toronto architects were convinced that the only way for a young man to study architecture was through a university course. Mr. J. P. Ouellet said this was the practice in Quebec.

(Continued on page 17.)



THE BRITISH SCHOOL, VALLE GIULIA, ROME.—Mr. EDWIN L. LUTYENS, A.R.A., Architect.



Thos. Lewis, Ltd., Photo.]

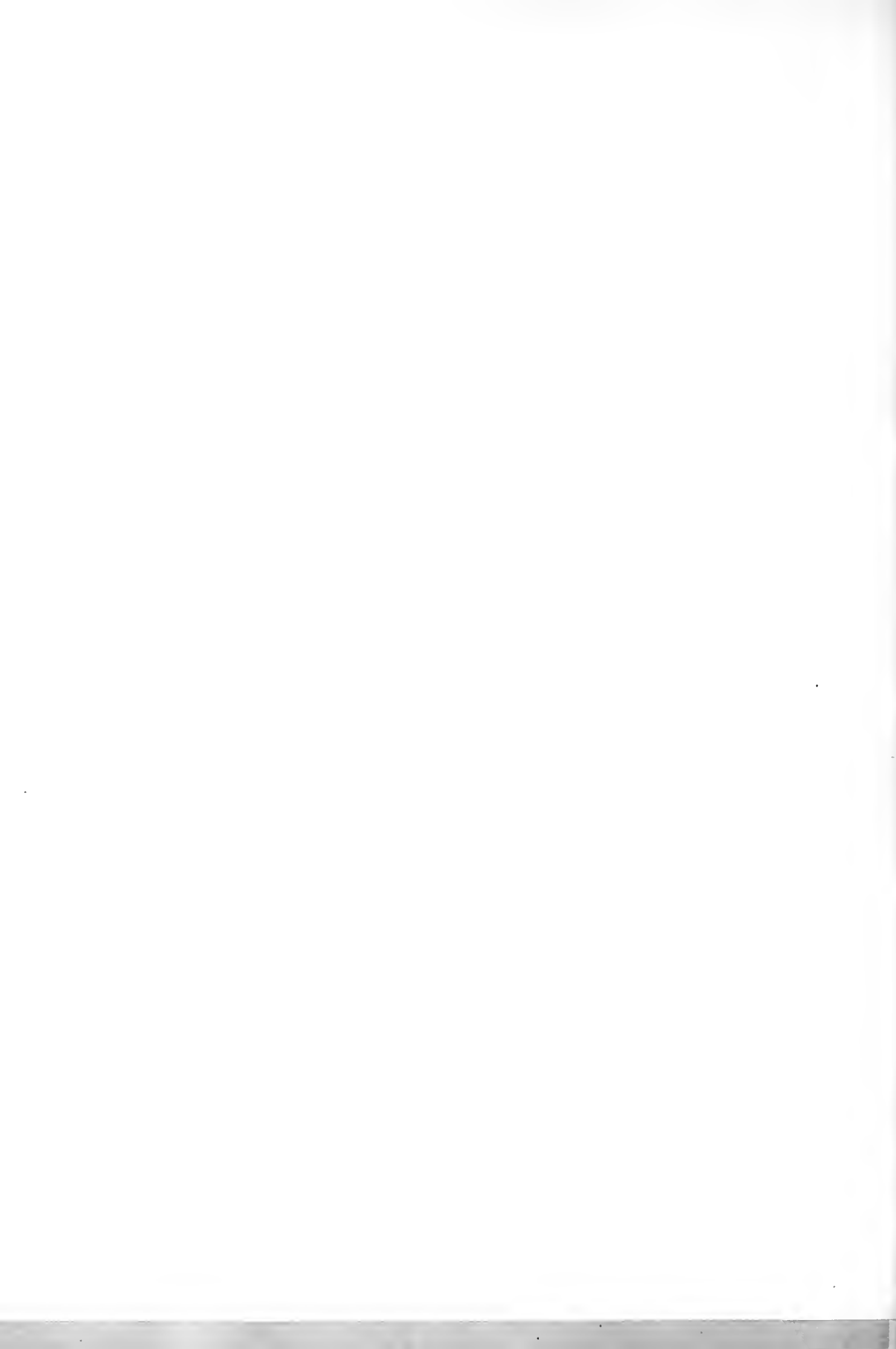
THE PAVILION ROAD ANNEXE, CONNECTED WITH 95, SLOANE STREET, LONDON, W.
Lieut. AMBROSE POYNTER, F.R.I.B.A., Architect.

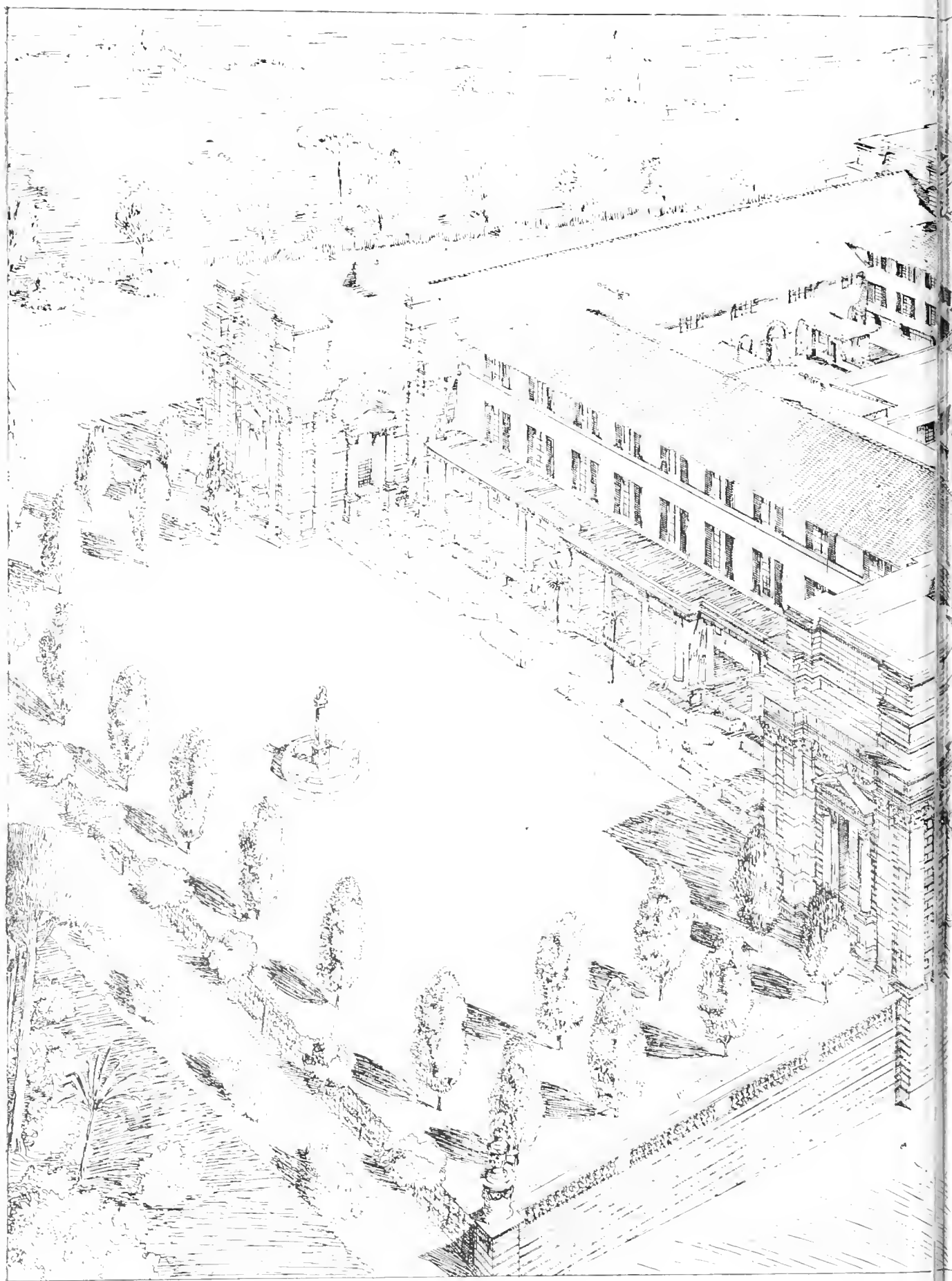


The Entrance, 1864, 1865



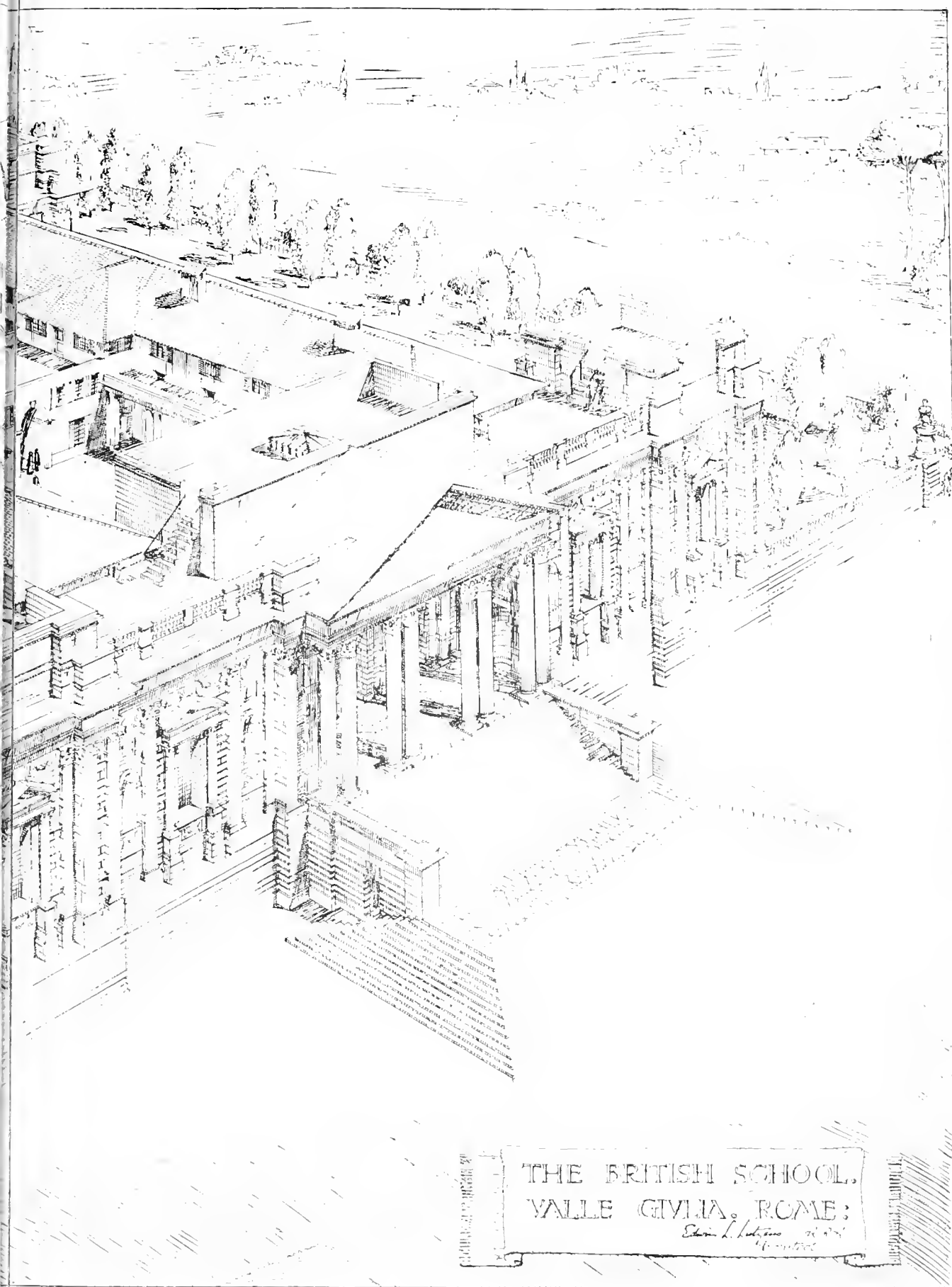
TAIL OF ENTRANCE.—Lieut. AMBROSE POYNTER, F.R.I.B.A., Architect.





THE BRITISH SCHOOL. VALLE GIULIA, ROME

JANUARY 2, 1918.



THE BRITISH SCHOOL.
VALLE GIULIA, ROME:

Edwin L. Lutyens
1906-1914



Our Illustrations.

THE BRITISH SCHOOL AT ROME.

This bird's-eye perspective was at this year's Royal Academy Exhibition. The drawing shows the British School at Rome as it will appear when the whole scheme is completed, and it is sincerely hoped that money will be forthcoming to fulfil this desire, so that the British students of art may be able to avail themselves of the opportunity of furthering their studies in an atmosphere so compatible with the object of their studies. Provision is made for sculptors, painters, and architects alike, including living accommodation, dining, library, and recreation rooms for the students. The site is situated in the Valle Giulia, and has a commanding view, and occupies the site upon which the British Pavilion stood during the International Art Exhibition. We give the three plans and front elevation on a second sheet of drawings. The architect is Mr. Edwin L. Lutyens, A.R.A., of Westminster.

95, SLOANE STREET, LONDON, S.W.

This house, of which we give a view and detail of the entrance, is one of the larger houses in Sloane Street. It has recently been entirely reconstructed, while at the same time the stabling at the rear, entered from Pavilion Road, was pulled down and rebuilt as an annexe, connected to the house by a covered way. The interior of the house was largely rearranged, and was redecorated throughout. A large bay was built out in front, and the whole elevation refaced in stock brick, with dressings of Bath stone and ornamental details in cast cement, painted white, as shown in the photograph. The only part of the old front left untouched was the doorway, where a lamp was added and a new oak door inserted, with specially designed knocker, handle, gratings and nails of bronze. Views of the two fronts of the annexe are given on the single page. One view is to Pavilion Road and one to the garden of No. 95. This little building is of Fletton brickwork, whitewashed and roofed with Westmoreland slates. The work was carried out by Messrs. Squire and Potter, builders, of 17, Walton Street, under the superintendence of Mr. Syme as foreman. This building was represented by a photographic view in last summer's Royal Academy Exhibition. Lieut. Ambrose Poynter, F.R.I.B.A., of 8, Grafton Street, W., is the architect.

Correspondence.

UNITY OF THE PROFESSION.

To the Editor of THE BUILDING NEWS.

Sir,—At the present time there seems a disposition on the part of the Institute to meet the Society of Architects with a view to "unity."

In the face of the serious position of the Architectural Profession, it behoves all those not fighting to try and arrive at some solution of the problems that weaken us, and enable the Government and others to disregard us, as non essentials, and of no strength.

Here we are, with practically all work prohibited, and where one is lucky enough to get work, with a poverty paying schedule of fees. Think! oh ye much beknowledged Architect! of the mechanic with his 2s. per hour and you with your 1s. 6d. if you keep a record of your time on the work or of your position as a technical Government slave.

It is time to join all up and unify to obtain the standing of the Doctors.

As an Associate I would propose that the Institute be thrown open to all qualified men for one year. That all qualified men be made Fellows and that henceforth there be two classes only Fellows and students.—Yours truly,

"UNITY."

Plans have been approved for additions at Abbey Works, Weedon Road, for Messrs. Smith, Major, and Stevens, Ltd., Northampton, and additions to factory, Harlestone Road, for Messrs. Simon Collier, Ltd.

REGULATION OF PROFESSIONAL PRACTICE IN CANADA.

(Continued from page 4.)

Mr. Wickson said he agreed that the examinations should be in the hands of the educational authorities of the province, and that the work of carrying out the act should be in the hands of the Government. Mr. Hynes was fully converted to the view that there was no encouragement for a young fellow trained in architecture to stay in Canada because the aliens came in and got a great deal of the work without any restriction. Mr. J. A. Pearson asked how this could be prevented.

Mr. Smith replied that the Government of the province or of the country should make it impossible for the alien to come in. There should be some arrangement to prevent young men of ability going to the United States. Mr. Pearson said this could not be prevented. The only step that could be taken would be to penalise an architect living in the United States who came to practise in Canada.

HOW PREVENT ALIENS COMING HERE?

Mr. Jordan remarked that Mr. Hynes' suggestion would perhaps have a tendency to raise the standard of architects admitted to practise here, but how could they prevent alien architects coming here?

Mr. Wickson pointed out that architects from New York went to Chicago, and it seemed impossible to enforce the principle that the architecture of a place should be done by its own men.

Mr. Smith referred to the feeling of clients who went across the border for architects who perhaps had specialised in certain classes of building, on the ground that they obtained better value for their money. This could only be overcome by education. Something could be done in the way of legislation to prevent the inefficiently trained architect from practising.

Mr. Wickson said that Mr. Hynes' idea was that if all the architects practising in Canada were properly trained men it would raise the standard of the profession, so that the importation of alien architects would automatically cease. With that view, it would be a good thing to get the Government to become a little more active.

Mr. Ouellet said that was the only practical way of stopping the alien from coming in. The Quebec Act provided that any architect practising in the province had to register, and if he were a member of some recognised association in his own country, the Quebec Association was supposed to take him.

DUTY ON PLANS.

Mr. Chausse stated that if the architect brought plans from the United States the duty had to be paid.

Mr. Wickson: The duty is 22 per cent. of 1 per cent.

Mr. Pearson: That is a wrong basis. It should be 25 per cent. of the commission he receives.

Mr. Smith: Then he either forfeits that proportion of his commission or the client has to pay more for the service.

Mr. Pearson argued that if a man came from the United States and opened an office in Canada, there should be some deduction from what he would have to pay on that account; his overhead, draughting and office expenses should be taken into consideration. If a man came in and simply opened an office without doing any of his work in Canada, he should pay at least 25 per cent. of the 5 per cent. commission.

Mr. Wickson said the American law was different from ours. They allowed a Canadian architect to go there and practise, but he could not take his staff with him nor send anybody else as a substitute. If he had any work in the United States he must do it himself. The Canadian architects did not have protection from the United States. There were buildings in Toronto which, as far as he knew, the architects never saw. The plans were made in the States and sent up in charge of a head draughtsman, who simply opened an office. On the other hand, Ross and Jennings had some difficulty in the States. They obtained a contract there, but

could not take a single man in with them; they had to hire all their men there.

Mr. Jordan suggested that this difficulty could be gotten over by sending in a staff one by one, and engaging them in the States. While one could not make a contract in Canada with men to work in the States, there was nothing to prevent a firm employing them when they got there.

Mr. Pearson thought that information on the points might be obtained from the Customs, but Mr. J. P. MacLaren answered that little help was to be expected from that quarter.

ARCHITECTURAL PHOTOGRAPHY.

At the Camera Club, on December 13, Mr. J. R. H. Weaver delivered a lecture on architectural photography, and accompanied it by an exhibition of a large number of very fine platinum prints. He decried the traditional idea that the architectural photographer must have a swing back. The swing back was to be avoided as far as possible, but the essential thing was a swing front, a considerable rise of lens panel, and a large and roomy bellows. With regard to lenses, it was necessary to remember that the photograph was never the criterion by which a lens was to be judged. The lens was to be judged by the ease with which it permitted focussing in difficult and dark interiors, and the facilities which it afforded for a very rapid exposure. For general purposes the architectural photographer should be equipped with two universal anastigmats, one of 11 ins. and the other of 9 ins., in the case of a 10 x 8 camera, and a wide-angle lens of 8 ins. or 7 ins.

With regard to materials, he believed in a double-coated plate. It was essential that the plate should be rich in silver and have a long scale, and he used the fastest plates he could get. Correct exposure he considered to be only a relative term. Every plate had a certain latitude within which all exposures were correct if correctly developed, and while there was much latitude in exposure there was considerably less in development, and hardly any at all in printing. Here, in the print, the depth was a constant thing, and a little lighter or a little darker than the proper depth was wrong. The scale of tones in all architectural subjects was, of course, very much longer than the plate could record, and, similarly, the scale of tones in the plate was very much longer than the print could record. As a general rule, he found that there was one particular set of tones in a photograph which were the important ones, and these must be correctly reproduced in the print. Generally speaking, it was the highest lights which were the making of the picture in architectural work. His practice was to give the shortest possible exposure within the effective range of the plate, and the thin negative thus obtained was quicker in printing and more easily controlled. The majority of architectural photographs were not under-exposed but over-developed; a correct exposure might be converted into apparent under-exposure through over-development.

In doing architectural work, Mr. Weaver continued, it was very important to harmonise one's motives. Did one approach the subject with the historical or the pictorial motive? Let that be made plain at the outset. For his own part, when he entered a cathedral he forgot history and looked only for light and shade. On the other hand, he did not think much of the man who merely took "effects," such as a patch of sunlight on the floor. The lighting should be simple and centralised, never scattered. Harsh lights here and there about a picture, or a bright window at its edge, simply ruined it. The lighting also should be soft and luminous, the light mass showing detail and gradation. It was not the case that well-lighted interiors were best for photography: frequently they proved the most unfortunate in the result. Generally the softer and darker parts of the building were the more attractive. The best effects were often secured by double exposure, first giving the necessary exposure for the subject when the sun was not shining, and then adding a short exposure when the sun was out. The

same general principles applied to composition. Competing effects must be avoided. There was nothing intrinsically wrong in the general view, but it was generally too inclusive to be satisfactory. Extreme angles must be avoided. He added that halation had never troubled him because he was always careful to avoid windows which were likely to give it.

OBITUARY.

Mr. Felix Moscheles, the portrait painter, died at Tunbridge Wells on Saturday, December 22, at the age of 85. Born in London on February 8, 1833, he was a son of Ignaz Moscheles, the distinguished pianist and composer, and the lifelong friend of Felix Mendelssohn, after whom his son was named. Educated first at King's College, he was then sent to Hamburg and Karlsruhe, then to the Bauschule at Leipzig, where he acquired a taste for architecture, and then to the Thomasschule, where he received tuition in drawing from a Herr Brauer, whose successful methods determined Moscheles in the choice of art as a profession. After some exciting experiences during the stormy days of 1848, he went, in 1850, to Paris in the days of the Republic which followed the flight of Louis Philippe, and witnessed the *coup d'état* of Napoleon III. as Emperor. A lucky arrest brought Moscheles into touch with Mme. Achille Fould, whose husband was then at the head of affairs, and who was a warm friend of the Moscheles family. He studied at the Atelier Gleyre, where he made the acquaintance of Du Maurier, with whom he struck up a friendship. He afterwards settled in London in a studio in the old Cadogan Gardens. Moscheles had already begun to interest himself in the question of international arbitration and universal peace, a subject upon which he had an interesting conversation with President Cleveland during a visit to America in the 'eighties. He crossed the Atlantic with Henry Irving and Ellen Terry, carrying a useful introduction from Robert Browning, one of his earliest friends and a constant visitor at his studio. He painted Cleveland's portrait, and a year or two later produced a fine portrait of Browning also, which found a home at the Armour Institute, Chicago. Among other notable work in portraiture may be mentioned his studies of his mother Gounod, Rubinstein, Sir James Ingham, and Stanley, the explorer. His earlier pictures were exhibited at Antwerp and Paris, and later he showed regularly at the Academy, Grosvenor, and New Galleries. Among his subject pictures are "Grief" (1878), "Spanish Song" (1879), "Little Mozart's own Choir" (1882), and "The Isle's Enchantress," the title of the last being suggested by Browning.

With the passing of Charles Henry Money Milnam, in his eighty-first year, on December 10, another link with the fast decreasing band of Victorian architects vanishes. Born at Aylsham, in Norfolk, in 1837, he came to London, and after being articled to Joseph Clarke, like so many other young men, worked in numerous offices, eventually joining in partnership Mr. Evers, with whom he remained until the latter's death. He was one of the oldest members of the Architectural Association and of the Art Workers' Guild, and other kindred societies. A man of sterling qualities, with a most lovable personality and disposition, he made friends wherever he went, and almost too modest and retiring, he never asserted the position which his work entitled him to, for Charles Milnam was essentially an artist, and his quiet, dignified work, always full of thought and originality, showed his capabilities and powers. In the early School Board days he set the tone of a sober kind of "Queen Anne" style, which he developed very consistently and cleverly, and his ingenuity in planning soon made a mark in this branch of his practice—but perhaps more than anything else his fondness lay towards ecclesiastical architecture and church work, and here he showed his real artistic powers. He built the Churches of St. Martin, Plumstead, St. Saviour's Priory, at Haggerston, the English Church at Biarritz, a church at Highgate, St. George's, Badshot Lea, in Surrey,

and many others. At St. Alban's, Holborn, he carried out some of his most characteristic work. Here he built the Maconochie Memorial Chapel, St. Sepulchre's Chapel and the beautiful hanging rood, and the St. Alban's Schools Institute, at Deptford. A large number of houses and buildings of all kinds in various parts of the country testify to his wide versatility and range of interests. Charles Milnam was a great lover of his native East Anglia and its beautiful churches, and was never so happy as when discussing and criticising their beauties. Until a few years ago he was a most indefatigable sketcher, and executed charming water-colour sketches. During the past few years he had been joined in practice by his son-in-law, Mr. C. Crickmer.

E. G. D.

In consequence of a cold caught at the Rodin Memorial Service at St. Margaret's Church, Professor Lanteri died last Tuesday week, in his sixty-ninth year. He was born in Auxerre on November 1, 1848, and chance led the lad to try his hand at modelling, and after several years of hard work in business, at musical and art studies, his ability as a modeller was recognised by M. Aimé Millet, the sculptor, who invited the youth to enter his atelier. At sixteen Lanteri won a prize at the Paris Ecole des Beaux Arts, and his training was completed in the studios of Duret, Claude Guillaume, and Cavelier. Lanteri married in the year of the Franco-German war, and he was stationed at Châtillon with the Army of Defence. On the proclamation of peace, through the influence of Dalou, who was a refugee in London, Lanteri became assistant to Sir Edgar Boehm, and proved of great help to the Academician. Dalou returned to Paris, and in 1874 Lanteri succeeded him as a master of modelling at the Royal College of Art, and a year later he was appointed first Professor of Modelling at the College. Sincerity of purpose and rare technical power distinguished his sculpture. He never produced anything finer than the two heads of children and "The Sacristan" in this year's Royal Academy. "The Sacristan" was bought for the Chantry Bequest.

The death is announced of Captain J. R. Mead, borough engineer and surveyor of Ipswich. Mr. Mead joined one of the Road Construction Companies of the Royal Engineers as second lieutenant, and on March 12 last he went over to France as a captain. About two months ago he came home on leave. Within a day or two he contracted double pneumonia, and died on Saturday, the 15th ult. Mr. Mead was thirty-five years of age. He was a member of the Institution of Municipal and County Engineers, the Institution of Municipal Engineers, and the Town Planning Institute. The funeral took place at Newton Solney on Wednesday, the 19th ult.

BUILDING INTELLIGENCE.

BANGOR (Co. Down).—The principals of the Abbey Church having been found in a bad state, and also the internal plaster mouldings, repairs are being carried out. The gallery above the entrance door has been removed, and the door from the porch into the building enlarged from 7 ft. by 3 ft. 7 in. to 9 ft. wide, the width of the entire porch and tower. A screen porch has been made immediately behind the front doors. The old straight-backed pews have been removed, and will be substituted with chairs. The Tomb Gallery has been closed up from church side, and is accessible by a stair which runs from the old vestry room. This gallery will be utilised as an organ loft. A vestry is in course of erection on the south side of the tower, and the old doorway will form an entrance. The work of building, plastering, and joinery is by Messrs. John McNeill and Son, Bangor, under the supervision of Mr. R. M. Close, M.R.I.A., Donegall Street, Belfast.

Mr. Bannister Fletcher has been appointed consulting surveyor to the Woolwich Equitable Building Society in succession to Mr. J. O. Cook. The directors of the society, re-elected at the annual meeting on December 14, include Mr. Alfred Ellis, J.P. (vice-chairman), and Mr. Edwin Furlong.

PROFESSIONAL AND TRADE SOCIETIES.

ROYAL INSTITUTE OF BRITISH ARCHITECTS. —At a meeting of the Royal Institute of British Architects on Monday, January 7, at 3.30 p.m., Mr. Herbert Wills will move the following resolution: "That, in view of the extremely important interests involved, this institute should take action in conjunction with other bodies to represent to the Government their strong objection to the continuance of any system of control over building after the war." Mr. Mark H. Judge, A.R.I.B.A., has given notice that he will move the following amendment to Mr. Wills's motion: "That in the opinion of the institute great changes are necessary in the by-laws and other regulations in connection with building construction, and that they should be so amended as to give the greatest liberty of action where building construction is carried out under qualified direction, under the supervision of the municipal authority; further, that the council be requested to convene a conference of corporate bodies representing architects, surveyors, and builders and the associations representing urban and rural municipal authorities, to consider, and if approved, present a memorial to the Government on the matter." An informal conference will be held at the Royal Institute of British Architects on Wednesday, January 9, 1918, at 3 p.m., when a discussion on co-operation amongst architects and specialisation will be opened by Mr. H. V. Lanchester. Professor Beresford Pite will preside.

Our Office Table.

Among the fifty-three New Year knights are Mr. Edward L. Lutyens, A.R.A., aged 48, the well-known architect and adviser to the Delhi capital scheme; Mr. Philip Edward Pilditch, aged 55, architect, member of the L.C.C., and Unionist candidate for East Islington in 1910; Mr. John Lavery, R.A., aged 61, the well-known portrait painter; Mr. David Murray, R.A., aged 68, the Scottish landscape painter; and Mr. Leslie Ward, "Spy" of the *Vanity Fair* cartoons.

On January 2 the Institution of Civil Engineers completes the hundredth year of its existence, having been established in 1818 at a meeting of eight engineers at the Kendal Coffee House in Fleet Street. At the next ordinary meeting of the Institution, on January 8, before the discussion of papers, a statement commemorative of the founding of the Institution on January 2, 1818, will be made, present conditions precluding more formal celebration of the centenary.

At the last meeting of the Metropolitan Water Board the question of the Board's deficiency, amounting this year to £242,000, was raised by Mr. D. S. Waterlow, who said that by 1923 it would be doubled, and roughly equivalent to a rate of 2½d. in the £. Such a position would create a feeling that might lead to a public inquiry, and possibly to the work of the Board being handed over to some other authority. Sir George Elliott, urging that no action should be taken at present, said that an application to Parliament would mean that the Board would be put in the melting pot. Eventually the Board adopted the report of the Finance Committee, which, having been equally divided on a proposal to adjourn further consideration of the matter *sine die*, made no recommendation.

The latest style in house numbers in Pasadena, California, utilises concrete blocks in which the numbers are moulded. These are set out on the edge of the curb, so that he who runs (in an automobile) may read without getting out of his car and walking up to the house to find out whether it is the place he is looking for or not. The blocks are only four by seven inches, face surface, with triangular sides that slope back from the street.

The stirring events in Palestine lend great interest to the announcement that the celebrated painting by W. Holman Hunt, O.M., of "The Miracle of the Holy Fire in the Church of the Sepulchre at Jerusalem" is now on exhibition at the Leicester Galleries,

Leicester Square. Very few Englishmen have witnessed this remarkable ceremony, which still takes place on the morning of the Greek Easter Eve. Mr. Holman Hunt lived in Jerusalem for many years, and having frequent opportunities of seeing the Miracle, painted the picture in 1893. The canvas depicts with great elaboration a vast concourse of pilgrims from Russia, Greece, Armenia, Albania, Egypt, and Abyssinia gathered together in the church, which contains the traditional Tomb of Christ. The picture will remain on view for some weeks.

According to *Municipal Engineering*, to construct a new railway station in Chicago it became necessary to demolish an existing concrete building measuring 107 ft. by 120 ft. Five floors and the top floor were of beam and slab construction, the thickness of the slabs varying from 6in. to 8½in., while the beams in general were 16in. by 24in. The sixth and seventh floors were of the flat slab type. The exterior of the building was brick-faced. The main instrument used to wreck the substantial building was a cast-iron ball, weighing 1,200lbs., and carried by a single-fall line on a 40ft. boom. Power for hoisting was supplied by a 25 horse-power direct-current electric hoist. The breaking-up of the floors occupied about an hour each, the slab concrete being shattered and the reinforcing bars cut by an oxy-acetylene flame. Columns were broken by having a wood fire kept round them for eight hours. Water was then thrown on the concrete, which was so weakened that the columns could be pulled over. Chisels were used to cut the beam connection to the column, and dynamite was also employed to shatter the heavy columns and reinforced concrete piers. The wrecking occupied about ten weeks, and proceeded at the rate of one floor a week and two weeks for the basement.

The establishment of a School of Civic Design may be one of the next developments in the work of the University of Manchester. It will cover all questions of urban development, as well as more material aspects like the lay-out of areas and architectural types of buildings. The architectural department of Manchester University, which is under the joint control of the University, the Manchester Education Committee, and the Manchester Society of Architects, is endeavouring to stimulate public interest in the subject. Five public lectures will be given by Professor Pite, of London, Professor of Architecture at the Royal College of Art. These, it is hoped, will prepare the way for the setting up as an integral part of the University of a special department with its own chair and staff.

The council of the Institution of Civil Engineers has resolved that its examination in engineering drawing, bills of quantities and elementary knowledge of specifications, which is at present an optional subject, shall be after January 1, 1919, obligatory for all candidates for associate membership. The examination is intended to be a suitable test of the knowledge and skill which should be acquired during the requisite training in engineering offices, and will apply to the several main departments of practice. The tests in drawing and quantities may be conducted in part by means of the production of drawings and quantities which have been prepared by candidates under their employers and teachers. Students of the institution may be allowed to take the examination prior to the time at which they become candidates for election as associate members.

The *City Press* comments on a singularly low City rental as follows:—"The property is in Camomile Street—a reference to the Directory shows it to be an eating house—and the rent paid is only £3 11s. 6d. The lease runs for 61 years from Christmas, 1913, and there is a renewing fee of £25 every fourteen years. With the exact position I am not familiar, but the facts seem to suggest that the lease is renewable in perpetuity, and runs on all fours with the old Conduit Mead leases in Old Bond Street and neighbourhood. One meets on occasions with curious anachronisms in City leases. No notice is taken of changed

conditions, and the phraseology of days of long ago still remains unaltered. A friend of mine has just taken a lease of an old house in Fleet Street. One of the conditions imposed is that he shall not keep a cow!"

The Board of Education announce that the Science Museum, South Kensington, is to be re-opened to the public on and from Tuesday, January 1. The Museum has been closed to the public for nearly two years; it has, however, been open without interruption for Students. As compared with 1914 conditions, the extent and the hours of opening for 1918 are somewhat reduced, but the greater part of the Museum will be open free on every week day from 10 a.m. to 5 p.m. and on Sundays from 2.30 p.m. to 5 p.m. The collections contain many unique objects of great interest as representing discoveries, inventions and appliances that have been of first rate importance in the advancement of Science and of Industry. Such objects as Watts engines, early locomotives, steamships, flying machines, reaping machines and textile machinery are records of British contributions to the progress of the world, and it is gratifying that these can again be made available for inspection by visitors to London from all parts of the United Kingdom and from distant parts of the Empire.

Largely through the efforts of the Canal Control Committee, of which Sir Maurice Fitzmaurice, the consulting engineer, is chairman, a good deal has been done of late to improve our hitherto neglected inland waterways. Altogether, there are nearly 4,000 miles of them, chiefly full of mud and weeds, but the number of boats capable of carrying traffic has been considerably increased in recent months, and to some extent the congestion of the railways has been relieved, although much yet remains to be done. The London County Purposes Committee, in a report on the subject, expresses the opinion that the entire canal system of the country should be dealt with in one Act and brought under one control. Already there are waterways by which a vessel can go from London to most of the large industrial towns, while there are other canals through which goods can be carried from the producer to the consumer or from the manufacturer to the trader, but full use is not made of the system, and cannot be made until the obstacles in the way are removed, or reduced to a minimum. It is, therefore, suggested that a central body, with Parliamentary powers, should be established on the lines of the Port of London Authority, with such modifications as are considered necessary to meet the circumstances, for the purpose of taking over and developing the present system. At the same time, the Government is urged to give effect to the recommendations of the Royal Commission which reported on the subject eleven years ago.

On the invitation of the Sewage Committee of the Corporation of Glasgow, the Local Council of the National Registration of Plumbers paid a visit on a recent Saturday to the purification works at Dalnarnock. The party were conducted by Messrs. A. W. Melvin, John Hogarth, and W. S. Tennant, and were shown the various processes from the introduction of the sewage at Swanston Street until its discharge into the Clyde. They saw the sewage being, in the first place, rough-screened, and thereafter raised by centrifugal pumps to the precipitation tanks, from which the sludge is forced into filter presses and converted into an artificial manure known as pressed cake, containing about sixty per cent. of moisture. The company were greatly impressed with the efficiency with which the Corporation has been able to carry on the work since the war—notwithstanding the shortage of labour and of chemicals—and it is interesting to note that twenty-four discharged soldiers are at present employed on the staff.

It appears that the difficulties in the way of a more extensive adoption of concrete ties are the attachment of the rail to the tie and the tendency of the concrete to crack and disintegrate. The present is a favourable time for further trial of the concrete, or the steel and concrete tie, as the high price of timber has increased the cost of wooden ties. The

Pennsylvania has over 4,000 concrete ties in use, and other railways have a very considerable number of different kinds in service. The Italian, Swiss and French railways use them extensively, but they have not yet become standard anywhere.

The war has made the demolition of many forest trees in these islands a grim necessity. Among the unfortunate victims is the handsome Scots pine (*Pinus sylvestris*), or Scotch fir, as it is so often misnamed. Wandering in a wood of these fine trees in Bucks the other day (writes a correspondent of the *Manchester Guardian*), I came upon a scene strangely un-English, and remarkably reminiscent of one in Northern Germany. The solitudes of the wood echoed with the blows of axes and the crash of timber, and the ground lay strewn with felled pines—felled by a gang of twenty or thirty German prisoners. In Germany and in Russia this same pine forms vast forests, and before the war huge consignments reached these shores from Northern Europe. But the Scots pine is also indigenous to Britain. It is, in fact, our only native pine. In Southern England the pine would have all been planted by the hand of man, but in Yorkshire and northwards through Scotland the tree may be found wild in its native soil, sown by the hand of nature. Alas that our own little island stocks must now be thinned down, and—unpleasant irony of circumstance—by German hands.

The Bill which the Corporation of Bristol are promoting in the next session of Parliament is entitled "A Bill to empower the Lord Mayor, Aldermen, and Burgesses of the City of Bristol to construct additional dock works, to extend the city and county of Bristol, and for other purposes." The preamble recites that in order to increase the facilities for dealing with the growing trade of the port it is expedient that the Corporation should have powers to undertake works of dock extension; that estimates have been prepared for the purchase of land and execution of the necessary works amounting to £1,325,000, and that as these works will be of a permanent character it is expedient that the cost should be spread over a term of years. It also recites that by the Bristol Corporation Act, 1914, the Corporation were empowered to borrow for the construction of deep water timber wharves, storage, and other warehouses, granary accommodation, cold stores and other buildings, and to provide equipment therefor, at an estimated cost of £335,500; that owing to increased charges for labour and materials, the cost is now estimated at £526,700; that the construction of such works is necessary, and in some cases urgent, for the accommodation of the traffic at the various docks; and that the Corporation should be empowered to borrow to the extent of the amount by which the estimates of 1914 are exceeded, as well as the money required for the works authorised by the present Bill; and also an additional sum for the general purposes of the dock undertaking. There is also a recital of the expediency of further extending the boundaries of the city in accordance with a schedule attached to the Bill.

As in Canada, the lumber question is also arousing concern in South Africa, though the angle of approach is not quite similar. The Union Government are being strongly pressed to make a complete survey of South African timber resources, with a view not only to ascertaining their value and their suitability for various industrial purposes, but also of increasing the forest areas of the country to ensure the supply of future needs. This survey, if properly carried out, will involve a considerable outlay, but the British Empire Producers' Organisation has no doubt that the result should be well worth the money. In the period of reconstruction after the war the world's supply of timber will be drawn out to an enormous extent. Already the demands of the war itself have been so large, that a general shortage for some time after the war will be almost inevitable failing new sources of supply and immensely reduced extravagance in cutting. The war, indeed, is already presenting the "new" countries with a vision of future economic shortage such as before the war was confined to the old.

CHIPS.

Mr. John Downing Wragg, of Swadlincote, Derby, head of Thomas Wragg and Sons, sanitary pipe manufacturers, has left £167,036.

The death is announced in Canada of Mr. Joseph Hobson, the eminent railway engineer, who constructed the St. Clair river tunnel, which was opened in 1891.

The result of the trading for the year ended March 31 last in connection with the various municipal housing schemes at Newcastle-upon-Tyne showed a net deficiency of £573.

The Preston Town Council have decided to grant a lease for three years to a Bootle firm of about 10,000 square yards of land near the dock entrance as a site for a slipway, with permission to renew the lease for a further three years.

Mr. James Watt Torrance, of Muirhouse Saw Mills, Glasgow Eastern Saw Mills, Grangemouth, and Trinity Wharf Saw Mills, Woolwich, who resided at Dundonald Road, Glasgow, died on September 3 last, leaving personal estate of the value of £77,734.

The death is announced, reported wounded and missing on May 3, 1917, now officially presumed killed while leading his platoon into action, of Second Lieut. Arthur Yates Statham, East Surrey Regt. (att. Rifle Brigade), aged nineteen, youngest son of Mr. and Mrs. Heathcote Statham, 6, Lancaster Road, Wimbledon.

Lord Burnham has accepted the post of chairman of the committee formed, at the instance of the City Livery Club, to consider in what way the Guilds can reassociate themselves with their crafts. The masters of a number of companies have been co-opted on the committee, and Major Champness is acting as hon. secretary.

The annual meeting of the National Society of Art Masters will be held at the Manchester School of Art on Thursday and Friday, January 3 and 4. The Lord Mayor of Manchester will open the proceedings, and in the evening will hold a reception at the City Art Gallery. On Saturday, January 5, visits will be made to the School of Technology and other places of interest.

The Northern Federation of Master Painters have presented to Alderman W. Allon, Mayor of South Shields, a portrait of himself in oils in appreciation of his services to the Federation since its inception twenty-one years ago, and to commemorate his year of office as mayor. The presentation was made by Mr. J. G. Cole, of Newcastle-on-Tyne, and Mr. J. Dixon, of Jarrow, presided.

The first official exhibition of Australian war pictures will be held early in January at the Leicester Galleries, Leicester Square. Mr. Will Dyson, the well-known cartoonist, has been for many months in France with the Australian Imperial Forces, and has returned with a collection of drawings made in the firing-line showing the Australian soldier in every phase of his life at the front.

Plans for the construction of a new street off Stringhey Road, Egremont, and for the erection of ten houses therein, and of four houses in Manor Road, adjacent, have been approved by the Works Committee of the Wallasey Corporation. The site to be built upon is that occupied by the old High School for Girls, which has remained unused since the new school in Mount Pleasant Road was erected.

In the early months of last year the Canadians were turning out less than 20 per cent. of the lumber used by the Armies on the Western front; they are now producing 70 per cent. The supplies from other sources have increased greatly, which makes these figures all the more remarkable. The average ten-per-man-per-week of the Canadian companies is twice that of any other companies. Much of the timber used in the last victorious advance of the French Army at Soissons was supplied by the Canadian companies operating with the French Army.

In Peterborough Minster a mural bronze tablet, in addition to a graveyard monument, has been erected by 2,000 subscribers to the memory of Sergeant T. Hunter, of the Australian contingent, who was wounded in France, and on his way to a hospital in the North of England was so ill on arriving at Peterborough that he was removed to the infirmary, and there died. The bronze is a massive casting in bold relief, measuring about three feet in length, and was designed by Mr. W. Temple Moore. It has been erected on the west wall of the Cathedral, near to the memorial brass to the local heroes of the South African campaign.

TO CORRESPONDENTS.

We do not hold ourselves responsible for the opinions of our correspondents. All communications should be drawn up as briefly as possible, as there are many claimants upon the space allotted to correspondents.

It is particularly requested that all drawings and all communications respecting illustrations or literary matter, books for review, etc., should be addressed to the Editor of the BUILDING NEWS, Elingham House, 1, Arundel Street, Strand, W.C.2, and not to members of the staff by name. Delay is not infrequently otherwise caused. All drawings and other communications are sent at contributors' risks, and the Editor will not undertake to pay for, or be liable for, unsought contributions.

When favouring us with drawings or photographs, architects are asked kindly to state how long the building has been erected. It does neither them nor us much good to illustrate buildings which have been some time executed, except under special circumstances.

*Drawings of selected competition designs, important public and private buildings, details of old and new work, and good sketches are always welcome, and for such no charge is made for insertion. Of more commonplace subjects, small churches, chapels, houses, etc.—we have usually far more sent than we can insert, but are glad to do so when space permits, on mutually advantageous terms, which may be ascertained on application.

Advertisements for the current week must reach the office not later than 3 p.m. on Tuesday. Front-page advertisements and alterations or stop orders for serial advertisements must reach the office by first post on Monday to secure attention.

ADVERTISEMENT CHARGES.

The charge for Auctions, Land Sales, and Miscellaneous and Trade Advertisements (except Situation Advertisements) is 6d. per line of Eight Words (the first line counting as two), the minimum charge being 4s. 6d. for 50 words. Special terms for series of six insertions or more can be ascertained on application to the Publisher.

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Replies to advertisements can be received at the Office, Elingham House, 1, Arundel Street, Strand, W.C.2, free of charge. If to be forwarded under cover to advertiser, an extra charge of Sixpence is made. (See Notice at head of "Situations.")

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Telegrams: "Timeserver, Estrand, London."

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NOTICE.

Bound copies of Vol. CXII. are now ready, and should be ordered early (price 12s. each, by post 12s. 10d.), as only a limited number are done up. A few bound volumes of Vols. XXXIX., XL., XLVI., XLIX., LIII., LXI., LXII., LXIV., LXV., LXVI., LXVII., LXVIII., LXIX., LXXI., LXXII., LXXIII., LXXIV., LXXV., LXXVI., LXXVII., LXXIX., LXXX., LXXXI., LXXXII., LXXXIII., LXXXIV., LXXXV., LXXXVI., LXXXVII., LXXXVIII., LXXXIX., XC., XCI., XCII., XCIII., XCIV., XCV., XCVI., XCVIII., XCIX., C., CI., CII., CIV., CV., CVI., CVII., CVIII., CIX., CX., and CXI. may still be obtained at the same price; all other bound volumes are out of print.

*Our Direct Subscription Agents for Australia are Messrs. E. T. Kibblewhite and Co., Printers and Publishers, 19, York Chambers, 105, Liverpool Street, Sydney, New South Wales; for Japan, The Maruzen Co., Ltd., 11-16, Nishibashi Tori Sancho, Tokyo who will receive Subscriptions at £1 10s. per annum on our account. Copies of the paper will be sent by us direct to the subscribers' address.

*The special rate to Canada is £1 10s. = \$7 30s. for 12 months, and 16s. = \$3 6s. six months. Our Direct Subscription Agents for Canada are Messrs. Sells, Ltd., 302, Shaftesbury Buildings, McGill Street, Montreal, who will receive Subscriptions, £1 10s. per annum, on our account.

BACK ISSUES.

Most of the back issues are to be had singly. All back issues over one month old will be charged 6d. each, postage 1d. Subscribers requiring back numbers should order at once, as they soon run out of print.

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Handsome Cloth Cases for binding the BUILDING NEWS, price 2s., post free 2s. 5d., can be obtained from any Newsgate, or from the Publisher, Elingham House, 1, Arundel Street, Strand, W.C.2

The Southwark B.C. are seeking Parliamentary powers for the demolition of the Church of St. Olave and for the allocation of the money derived for the erection of a new edifice.

The old Cunard building in Water Street, Liverpool, which has a respectable history behind it, is now, after lying empty for a considerable time, in the hands of renovators. The future tenant will be Barclay's Bank.

Included in the will of Sir J. Reynold Roberts, of Woodford Green, is a legacy of £10,000 for the Governors of the Warehousemen's Clerks' and Drapers' Schools, Purley, for the erection and equipment of a wing for girls.

The death has occurred at Lancaster of Mr. Arthur Wm. Hunt, for fifty years head of the firm of Shrigley and Hunt, of Lancaster and London, stained glass window decorators. Deceased's seven sons are all serving in the forces.

A tablet has been unveiled at the Guildhall, Boston, Lincolnshire, to the memory of Captain M. Standfield, Lincolnshire Regiment, joint clerk to the Court of Sewers and Town Clerk of Boston, who was killed in Belgium on July 29, 1915.

The borough surveyor of Basingstoke (Major Phipps) has been appointed Deputy Assistant Director of Roads in France, with the acting rank of major, but has agreed to assist the council with advice from time to time. The salary of the acting borough surveyor (Mr. W. A. Drummond) has been increased to £200 per annum.

The Montgomeryshire County Council has appointed Captain Edward Arthur Evans, Royal Engineers, as county surveyor, in place of Lieut.-Col. Hutchins, who died twelve months ago. Captain Evans, who is an instructor at the Chatham Military Engineering School, is the son of the Carnarvon county surveyor, with whom he was trained. He lost a leg in France.

Mr. Charles Napier Hemy, R.A., the well-known marine painter, who died September 30 last, aged seventy-six years, left estate of the gross value of £12,579, of which £10,194 is net personalty. Probate of his will, dated November 21, 1881, has been granted to his widow, Mrs. Amy Mary Hemy, to whom he left the whole of his property absolutely.

Sir Howard Frank has been appointed Director-General of Lands for the Air Ministry. Sir Howard is also Director-General of Lands to the War Office and the Ministry of Munitions. The whole of the taking over of lands, their acquisition and renting, management, and compensation payable will thus be under one control for the three departments—the War Office, the Ministry of Munitions, and the Air Ministry.

The Dean and Chapter of Durham have accepted from the Dowager Lady Londonderry a handsome processional cross in the form of the Cross of St. Cuthbert, in memory of the late Lord Londonderry. It was used for the first time at the Christmas morning service in the cathedral. The cross is of silver, mounted on an ebony staff, with figures of the Virgin Mary and Child, St. Cuthbert, and the Venerable Bede.

An extraordinary case of endeavouring to evade military service was heard at South Shields last Friday. It was stated in evidence that Charles Edward Millar (twenty-seven), joiner, had for over two years been concealed in a small front room, which he had never left during the whole of that time. His parents, who were charged with aiding and abetting, pleaded that he was not strong enough to join the Army. The young man was handed over to the military authorities, and his parents were each fined 50s.

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AND ENGINEERING JOURNAL.

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Currente Calamo.

On Monday last, at the Royal Institute of British Architects, Mr. Herbert H. Wills proposed the following resolution: "That in view of the extremely important interests involved, this Institute should take action in conjunction with other bodies to represent to the Government their strong objection to the continuance of any system of control over building after the war." Mr. Wills held that the urgency of the housing question is considerably exaggerated, and that the wages at present paid to the working classes have no necessary relation to economic standards and cannot be continued in normal times of peace. Whatever happened, Mr. Wills said, an increase of production must be proportionate to enhanced wages. Moreover, after the war the tariffs now existing might or might not be modified in dealing with Allied countries and the admission of German manufactured goods as heretofore remained to be finally determined. The success of the better permanent cultivation of the land must depend upon a sufficiency of inducement offered, and as regards emigration, its extent in bearing upon housing problems cannot be estimated. Till within the last few years private enterprise had provided 97 per cent. of the accommodation required, but the amount of housing since the Finance Acts of 1909-10 was first halved and subsequently reduced to a fraction of what it had been. The Act costs, Mr. Wills reminded his hearers, more to administer than it produces, and the Government had reluctantly promised to repeal it. The Housing and Town Planning Act made it impossible for unduly inflated prices to be obtained for sites, but private enterprise could not do much till the Finance Act was amended and the present system of rating—a grievous burden on all building, particularly housing—altered. If modifications in these matters were made, despite the increased cost of building, it might be possible to avoid materially raising the weekly charges, and to build at rents which workers could pay without the necessity of State subsidies. Disabilities in the way of private enterprise ought to be removed, and after the war the present unfair control of building must not be maintained.

Housing projects also, Mr. Wills contended, should take their place among other branches of building industry. Big schemes of State-aided housing—involving unrestricted powers of ordering materials in bulk on the part of authorities—must place private enterprise at a disadvantage, subject to control and unable to compete with wholesale preference as regards prices. Although official papers might express a hope that competent architects will be engaged, no practical steps to ensure that seemed likely. The country was to be flooded with approved type designs, while every municipal or urban authority has its surveyor, engineer, or architect whom the mass of electors' representatives consider sufficient. Mr. Wills contended that no agitation on the part of the profession could alter this, and would only provoke bad feeling. The ordinary idea seemed to be that the official surveyor, whatever his status or qualifications, is at any rate fully competent to plan houses and construct streets, and it was vain to suppose that local authorities would seek outside advice or pay for expert plans. Members of the Institute had been invited to produce typical plans, and it was quite possible that sheets of details would be drawn out too. The Local Government Board of Scotland had issued an excellent illustrated pamphlet of plans, and the Board of Agriculture and Fisheries have also done the same.

Mr. John Slater, M.A., seconded the resolution. Letters were read, addressed to the meeting by various allied societies such as Aberdeen, Nottingham, Leicester and elsewhere, urging the adoption of the resolution. Mr. Paul Waterhouse wrote qualifying his support on the grounds of expediency. A protracted debate ensued after Mr. Mark Judge had withdrawn his amendment on the understanding that the principle involved by the resolution was confined to war restrictions not including building by-laws. Mr. Wm. Woodward spoke in favour and Mr. Adshead opposed the resolution, speaking mainly on the housing problem. Mr. George Hubbard, F.S.A., said that the Peabody and other similar trusts had provided dwellings at a rate far below

commercial values, and so in a way they had fixed a standard beneath current cost and the possibility of profits; consequently, if the Government subsidised building, ordinary private firms would be worse off than ever. Messrs. W. H. White, Saxon Snell, D. B. Niven, B. J. Dicksee, Lanchester, Arthur Keen, and others continued the discussion, towards the close of which Sir Aston Webb, R.A., warmly supported the resolution proposed by Mr. Wills, considering that by the probable Government control the building industry would be crippled after the conclusion of peace, so he unhesitatingly maintained they had a right to know what the Government really intended to do. Architects, builders, and the allied trades had willingly submitted to restrictions incidental to the war for the good of the country and the cause for which we were all fighting, but so soon as relief could be made possible, facilities for the renewal of legitimate business ought to be insured. The authorities should make clear at an early date if preferences were to be given to any class of building, but Sir Aston Webb considered that all such provisions would be extremely unfair, and he protested against any one kind of undertaking being allowed to dominate to the detriment of another. Municipal and commercial buildings must be erected for the development of business and industry as well as for housing, in which he personally had taken a leading interest. Mr. J. G. S. Gibson warmly supported these contentions, though obviously there was a great dearth of industrial dwellings in South Wales. He agreed men must be housed before you could employ them. In some districts, as another speaker had said, beds in Wales at present were never cold; so soon as one occupant left, another slept, and so on during the twenty-four hours round. Nevertheless, the Institute was not the authority to meddle with such economic questions, but architects were only right in calling upon the Government to encourage with an even hand the building industry, and he foresaw nothing but disaster if a big department were established to settle which kinds of building should be allowed, or to say whether a premises might be run up in Oxford Street but

not in the Brompton Road. Free trade in building work on old lines would be wiser and more healthy. In the end, after an amendment suggested by Mr. H. T. Hare had been lost, Mr. Wills' resolution was almost unanimously carried, the last lines being modified so as to read: "To represent to the Government the serious objections to the continuance after the Declaration of Peace of the present war conditions."

A breezy discussion of the Report of the Library and Site Committee of the Exeter City Council with reference to the appointment of an architect for the new public library varied the gaiety of New Year's Day. The committee wanted to authorise the city architect to prepare the plans and pay him an honorarium of 200 guineas for the work. Councillor Challice moved as an amendment that Mr. Sidney K. Greenslade be appointed joint architect with Mr. Bennett. Councillor Clapp thought if the council were not going to appoint their own architect they ought to throw the job open to public competition. Councillor Munro regarded Councillor Challice's attitude as Gilbertian and said that some years ago when Councillor Challice was architect to the Guardians, and a workhouse infirmary had to be built, the same arguments against his being entrusted with the work had been used against him as he had now urged against the appointment of Mr. Bennett; but he was appointed, and the building was second to none, and a public library could not be a much more difficult job than an infirmary. Councillor Gayton wanted to know why they appointed officials at all if Mr. Bennett was not to do the job. The Mayor said his own personal feeling was that if it cost £2,000 to engage Mr. Greenslade he should pay it because they were building for posterity. Mr. Bennett was a most able official for the work for which he was appointed by the council; but did anyone imagine, when he was engaged, that they were engaging an architect who was prepared, on the spur of the moment, to design a building to cost, say, £20,000 or £30,000? They would not have got such a man for double Mr. Bennett's salary. The proposal was to put the designing of this building in the hands of an official, capable as he was, but who, as compared with Mr. Greenslade, had his limits. Mr. Greenslade was at the top of the tree in this class of work, and they might be sure he would design a building that would be a monument in his native city. Their own official would do the work undoubtedly in a workmanlike manner, but would it be the artistic product the City required? On being put to the meeting twenty-three voted for Councillor Challice's amendment, and seventeen against. The amendment was therefore declared carried. Councillor Lucas thereupon moved that the whole report be sent back to the committee to consider and report on the suggestion contained in the amendment. Councillor Shirley Steele-Perkins seconded. He did not think it right for a

member of the committee to suggest a name of an architect in open council. Such a recommendation ought to come through the committee. He also did not approve of offering, beforehand, an honorarium to an official to do work he was appointed to perform. Suppose after the war they embarked on a sewage scheme at a cost of £150,000, would they say to the surveyor that if he carried it out they would give him a fee of £1,000; or would they offer the medical officer a fee of £50 or £100 to quell an epidemic? If after this building were completed the architect could show them that he had spent long hours of overtime upon it, or had incurred personal expense, they should certainly recompense him. Councillor Munro observed that he did not want to have Mr. Bennett jockeyed out of the job by its being sent back to the committee. At last it was agreed to allow the report to go back to the committee as suggested.

THE USPENSKI SOBOR, OR THE CATHEDRAL OF THE ASSUMPTION, MOSCOW.

Uspénski Sobor, or the Cathedral of the Assumption, Moscow, of which we give a view from the Royal Academy by Mr. W. Walcott, stands in the middle of the Kremlin, the great triangular walled enclosure which occupies the centre of the city on a hill above the Moskva. The Kremlin embraces more than a quarter of the whole city, which is dominated by it, and in its general relation thereto it rather suggests to our modern sense the Acropolis of Athens. Within a battlemented brick wall, beset with mediæval gateways and unfamiliar looking towers, are congregated a remarkable collection of palaces, ecclesiastical and military buildings which represent the history of Moscow and the strange fusion of imperial and ecclesiastical power that has had so dramatic a *dénouement* in recent events. Here the Palace of the Czars stands surrounded by churches, of which Uspénski Sobor is the most important, and the most venerated of all the sacred buildings of the Kremlin, and in the Kremlin the Czars received the sanction of the Church.

The Uspénski Cathedral, of which we publish an interior by Mr. W. Walcott, is the church in which the Czars were anointed and crowned, and was formerly also the burial place of the Patriarchs. Like the rest of Moscow, it has been many times rebuilt since the original wooden structure erected by Ivan I. (1328-1340) on the removal of the metropolitan see from Vladimir to Moscow. The Kremlin was enclosed by the present wall in the fourteenth century, after the whole quarter had been nearly destroyed by fire, and in common with other buildings the cathedral was rebuilt in brick and stone (we give a plan and exterior of the building). These first attempts of the Russian builders with more durable materials were not successful, the buildings they put up proving no more secure and structurally less sound than the fire-ravaged wooden structures they replaced. Under Ivan III. it was found necessary to demolish the crumbling cathedral and rebuild it.

The new building on the old site was the work of Ridolfo di Fioravante, of Bologna, nicknamed Aristotle from the extraordinary range of his knowledge. He came of a family of architects and engineers, and was born before 1418. He died at Moscow about 1486. Before crowning his career

in the Russian capital he was employed by the Sforza, the Dukes of Milan, Pope Paul II., Matthias Corvinus and Pope Nicholas V. He acquired a European reputation by removing several feet, without demolishing it, from the campanile of Santa Marca del Tempio, at Bologna. He also restored the tower of the church of S. Biazio, at Ceuto, to its perpendicular position. His work in Moscow includes many of the buildings in the Kremlin besides the Cathedral of the Assumption, the earlier Archangel cathedral being also attributed to him. Fioravante must be regarded as the leading spirit of the Renaissance in Russia, his work including the designing of coinage and even the casting of cannon.

The new cathedral was built on the model of the cathedral of St. Demetrius at Vladimir, the old See, dating from 1197. In all its vicissitudes of fire and plunder, culminating in the drama of 1812, the cathedral has always been restored in its original form, and it retains to-day at the south entrance the ancient gates of gilded bronze known as the Golden Gates of Korsonn.

It is not a little remarkable how the early wooden structures of the city have been perpetuated, the fantastic and brilliant series of buildings which make Moscow like some exhibition city perhaps being the outcome of this persistent necessity to rebuild, each time more permanently, each time more lavishly.

In plan the cathedral is a rectangle 82 ft. wide and 125 ft. long, with five apsidal chapels at the east end. There are four pillars supporting a centre dome 138 ft. in height, and a smaller dome at each corner, all gilded and each surmounted by a golden cross. The general plan of the Russian churches, with their multiplicity of domes, must be referred to the later type of Byzantine plans which grew out of the single dome type of S. Sophia, but in the decoration and some of the architectural detail there is some Romanesque influence. The cathedral of St. Basil, known as the Vasily Blagov., in the inner town, has eleven domes, the Cathedral of the Annunciation nine. By far the most remarkable thing about all these churches is their external aspect, the very inverse of the original Byzantine type, in which the exterior is essentially subservient and almost too subservient to the interior. A Russian church rather suggests a Byzantine church turned inside out.

The arresting feature of the interior of Uspénski Sobor is the *ikonostás*, a lofty vermilion wall of tracery, with five tiers of saints, all still lavishly adorned with precious stones. It was partly renewed in 1882. The great silver chandelier of forty-six branches which hangs from the centre dome was presented to the cathedral by the Cossacks in commemoration of the recovery by them of 11,900 lb. of gold from the *ikonostás*, altar vessels, and other sacred objects taken off by the French.

Walls and pillars are covered with pictures of saints, and among the sacred relics still retained is the icon known as the Virgin of Vladimir, the possession of which marked the beginning of the supremacy of Moscow as the capital of Russia. This picture is said to have been painted by St. Luke; it was brought from Jerusalem to Constantinople in the middle of the fifth century and eventually brought to Moscow to protect the city against the Tartar invasion. The icon is in a frame valued at £20,000.

We are in no particular mood just now to appreciate Russian architecture, but if her Revolution has jeopardised the

whole of her relations with the Allied cause, we ought, in thinking of her art, if we can shut our eyes to politics, to remember how in the past we liked to predict that Russia, the youngest of the nations, would never be herself until she had passed through the throes of a revolution. This has come to pass, and the nation has yet to emerge from the strange mixture of elements which are nowhere seen more strikingly than in the architecture of the country. In the whole of Russian art we can see a strong reminiscence of the East compounded with an unknown quality that veils Russia from us, and prevents us from seeing her as we see France, Italy, and Spain. In how great a measure the Russian spirit is not actually European her art, now barbaric, now refined, plainly shows. Europe, indeed, possesses in Russia a strange link with Asia, with an Asia not affected by the Asian tradition. To understand Russia we must see in her the Asiatic fused with the Attic, East more than meet-

"The Hills from the Hayfield" (80) and "Haddon Hill, East Knoyle" (88) will be appreciated as they deserve. Mr. C. F. Holmes scores high with his "Snow-showers on Malham Moor" (81), in which water, rocks, and sky are rendered in most masterly fashion. Of the two shown by Mr. Marcel Jeffery we like best his "Tamice à Chelsea" (154) in the North-East Room. The other, in the Central Gallery, "Dans un Studio Ami" (113) is good, but hardly so successful. Mrs. Swinerton has our heartiest congratulations on her delightful dewy and blooming "Lane" (112). Mr. Archibald Wells' "Portrait on Time" (117), if not altogether satisfactory, is not without charm, but the child figure seems to us hardly well conceived, if, indeed, its absence altogether would have been regretted.

Mr. W. G. De Glein, R.G.A., has two welcome pictures in the Central Gallery. "Le Chiffre d'Amour" (105) and "Arc-en-Barrois, from the Quarries" (116), and two in the South-West Room. "Touraine

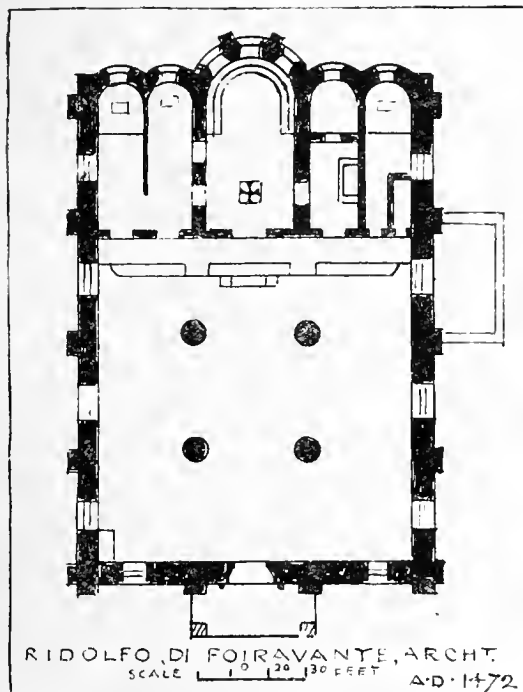
(40), and all evidence a clearness of execution and steadiness of purpose which characterised his work as a soldier, and crowned his self-sacrifice with lasting remembrance.

THE SOCIETY OF ARCHITECTS.

The report of the Council of the Society of Architects for the year ended October 31, 1917, states that the Society has held fifty meetings during the year, of which forty-two were council and committee meetings and the remainder ordinary meetings, for the transaction of routine business. The only papers read before the Society during the year were two on "Concreted Coal," given by Mr. R. G. Lovell, A.R.I.B.A., Past Vice-President, in June and July.

MEMBERSHIP.

Twenty candidates have been admitted to membership and one to graduateship. After allowing for deaths, resignations, lapses, removals, and transfers, the total membership on October 31, 1917, was 1,163, made up as



USPENSKI SOBOR OR CATHEDRAL OF THE ASSUMPTION IN THE KREMLIN, MOSCOW. : WHERE THE CZARS WERE CROWNED

ing West; and we must unravel from the western overgloss the bewildering and dazzling influences gathered up like so many fine-spun, multi-coloured threads that have their root deep in the heart of Asia.

JAN MARIUS IVOR.

THE NEW ENGLISH ART CLUB.

Among the 230 exhibits at the exhibition of the New English Art Club there are not a few of more than average merit. One of the best is Professor Rothenstein's "Storm" (83) in the Central Gallery, in which the contrast between the storm-cloud between the Cotswold houses and the bright sunlight in which they are bathed is most skilfully depicted with the happiest result. Of the five sent by Mr. P. Wilson Steer, "Betty" (108) is certainly one of his most successful child portraits. No less welcome are "The Temple, Chirk Castle" (106) and "Landscape—Broken Weather" (109). In the South-West Room Mr. Steer also shows "Landscape—Evening" (217), and another landscape (35) in the North-West Room.

Mr. Lucien Pissarro, who has nine works hung, is typically best in "Allotments" (127), and of the rest his

(September, 1915)" (194) and "San Michale, Venice" (195). Miss Lubov Letnikoff's "On the Long and Weary Path" (76) is powerfully attractive.

Among other works deserving mention are Mr. Harmar's landscape "Chibbet, Exmoor" (78), "Still Life" by Mr. N. M. Summers (82), two little landscapes by Miss Blanche Rowley (91 and 119), Mr. Walter Taylor's "Fragments of a Palace" (107), "November Morning" of Mr. M. F. Knox (125), two landscapes by Miss Beatrice Bland (150 and 157), and several excellent drawings by Mr. C. Maresco Pearce, including "Venetian Houses" (23) and "The Palace of the Campanile" (27).

A noteworthy addition to the interest of the exhibition is a selection of paintings and drawings by the late Captain Gerard Chowne, for many years a member of the Club. At the outbreak of war in 1914 he volunteered for foreign service, and enlisted in the Artists' Rifles as a private. He received a commission in the East Lancashire Regiment; went first to France, and afterwards with the Salonika Force to Macedonia, where he received the wounds of which he died. Some of the water colours are very good—for instance, "The Ravine" (32) and "The Tower"

follows. Last year's figures are added for the purpose of comparison:—

	1917.	1916.
Members	961	963
Hon. Members	27	27
Retired Members	33	31
Graduates	10	9
Students	132	141
	1,163	1,171

Upwards of 370 of the members (in every class) are serving with H.M. Forces, and many "ineligible" members are engaged in other forms of national service.

The Society has sustained the loss by death of the following:—

Members—Edward Cratney, F.R.I.B.A. (Wallsend-on-Tyne), Member of Council; George Eaton Shore (Crewe); Stanley Dean (Bournemouth); A. T. G. Woods (Brentwood); H. Edmondson (Wakefield); Major R. Cecil Davies (Chester); 2nd Lieut. F. C. King (Belfast); *Lieut. R. W. Lines (Alberta); J. Ivor Moore (London); H. Kohler (London); R. G. Sykes (Liverpool); *Lieut. F. S. Chesterton (London).

Retired Member—D. D. Mistry (Bombay). Students—*Lieut. A. E. Young (Chatham); J. R. Thomas (Ammannford).

The resignations of the following have been accepted:—

Members—V. S. Whittaker (Rhyll); J.

*Killed in action.

Nuttall (Matlock); T. Foley (Beverley); J. Anderson (Hamilton, N.Z.); F. W. Macey (Vancouver); C. A. Vautier (Hamilton, N.Z.). Student—T. A. Davidson (Aberfeldy).

TRANSFERS.—The following members have been transferred to the list of retired members:—F. R. Saunders (Ventnor); F. Elliff (Hayling Island); A. Stoner (London), past member of Council.

MILITARY AWARDS.

During the year the following awards are known to have been made to members serving in H.M. Forces:—

Members—J. Wightman Douglas (Newcastle-upon-Tyne), Major, R.E., awarded the D.S.O., for supervising the wiring of the line at Salonika under heavy fire. Major Douglas has also received the Serbian Order of the White Eagle.

Students—D. R. Lyne (London), 2nd Lieut. R.E.; and W. H. Rebbeck (Stafford), 2nd Lieut. R.E., awarded the Military Cross for conspicuous bravery in discharge of their duties.

VACANCIES ON THE COUNCIL.

To fill the vacancies caused by the deaths of the late Mr. Edward Cratney, of Wallsend-on-Tyne, and Major R. C. Davies, of Chester, the Council co-opted Mr. A. G. Ware, of Bournemouth, and Mr. R. Goulburn Lovell, A.R.I.B.A., Past Vice-President, of Eastbourne, for the remainder of the unexpired periods of the respective offices.

THE SOCIETY'S STAFF AND WAR SERVICE.

At the outbreak of war, the male members of the society's clerical staff offered themselves for military service. The junior, J. Jones, was accepted, joined the Royal West Kent Regiment and was wounded in action at Hooze. He has been since promoted to the rank of sergeant, and has returned to duty. The assistant secretary, Mr. W. E. Wanmer, was rejected as unfit, and joined the V.T.C. He was subsequently re-examined and passed for general service, and joined the 28th County of London Regiment (Artists' Rifles). He has been badly wounded in action, and is in hospital in France. The secretary being over the military age limit, and therefore ineligible for the army, took up Red Cross work, qualifying in three subjects. He joined the A.A. V.A.D., London 43, and worked also with the London Ambulance Column, as a stretcher-bearer and as an ambulance and hospital orderly. He now holds a commission in H.M. Volunteer Forces (County of London).

ARCHITECTS AND NATIONAL SERVICE.

A deputation, representative of the profession, waited upon Mr. Neville Chamberlain, Director-General of National Service, on February 21, at St. Ermin's Hotel, Westminster, with a view of securing a definite place for architects in the scheme of National Service.

The society was invited to appoint two representatives and to nominate two unattached architects. Those officially representing the society were the president, Mr. E. J. Sadgrove, F.R.I.B.A., and the senior vice-president, Mr. A. Alban H. Scott. Other members on the deputation were Mr. Percy B. Tubbs, F.R.I.B.A., past-president; Mr. C. Cheverton, president of the Devon and Exeter Society; and Mr. Harry Gill, president of the Nottingham and Derby Society. The unattached architects nominated by the society were Mr. W. H. Cowlshaw and Mr. F. J. Wills.

The deputation was introduced by Mr. Ernest Newton, A.R.A., and Mr. Neville Chamberlain, in his reply, expressed his sympathy with the representations made, and thought that one of the most practical of the suggestions made was that put forward by Mr. Gass for the setting up of an advisory committee, which would keep in touch with him and suggest from time to time ways in which the services of architects could be utilised.

On the morning of the day following the deputation, at a very representative gathering of the Architects' War Committee, an Architects' Advisory Council was formed, on which the Society of Architects is represented by the President, Mr. E. J. Sadgrove, F.R.I.B.A. In the afternoon a joint committee of the Professional Employment Com-

mittee of the A.W.C. and of the Council of the Architectural Association was held at 28, Bedford Square, to consider and report upon the position of architects after the war. This is practically a demobilisation committee, which will work in co-operation with the Advisory Council on problems common to both bodies. The following members of the Society of Architects are on this joint committee:—Mr. Percy B. Tubbs, F.R.I.B.A., who has been elected a vice chairman; Mr. E. C. P. Monson, F.R.I.B.A.; Mr. Cheverton, of Devonport; Mr. Gill, of Nottingham; and Mr. C. McArthur Butler, who has been appointed joint honorary secretary with Mr. F. R. Yerbury. The committee, which has the support of every architectural society in Great Britain, is entitled the Architects' Reorganisation Committee.

ARCHITECTS AND R.E. SERVICES.

A number of members holding commissions in the Royal Engineer Services urged the Council to support their claim that temporary R.E.S. officers, when holding positions hitherto held by officers of higher rank, should receive promotion to that rank with pay accordingly. The question was one affecting the status of the profession generally, and the Council took the matter up with the Architects' War Committee, and in other directions. They were subsequently informed that the matter had been before the highest competent authority, and that nothing could be done in that direction during the war.

SERVICES TO OTHER BODIES.

The free use of the society's premises, together with the services of the society's clerical staff, have been again placed by the Council at the disposal of the Beaux Arts Committee and of the Professional Employment and Reorganisation Committees of the Architects' War Committee.

THE SOCIETY AND THE WAR LOAN CAMPAIGN.

The society has contributed its quota to the War Loan, first by converting its holding of the old Loan into the new and adding to it a sum of £350, making £850 in all, and secondly, by interesting its members in the War Loan Campaign, and securing their active support. The society has received a letter from the Lord Mayor thanking the many members who responded, and intimating that their assistance and advice has been of definite value to the campaign and the organisation at the Mansion House, and that they have done much useful work in organising and speaking in various parts of the metropolitan area. A letter has also been received from the Chairman of the National War Savings Committee, thanking the members who so generously assisted in the work of the campaign.

HOUSING AFTER THE WAR

A meeting of representatives of interested bodies, including the society, was held at the Law Society's premises in Chancery Lane, in November, to discuss a proposal for obtaining the repeal of Part I. of the Finance (1909-10) Act, 1910, which it was alleged had had a baneful effect upon the provision of working-class dwellings. At this meeting a resolution was passed urging the Government to remove the restrictions and to encourage private enterprise and co-operative effort in providing healthy dwellings for the people. Subsequently it was agreed to send a deputation on the subject to Lord Rhondda, and the council of the society nominated the President, Mr. E. J. Sadgrove, F.R.I.B.A., to represent them thereon.

The council also appointed the President, and Mr. A. J. Murgatroyd, a past Vice-President, on the Executive Committee, charged with the arrangement for convening a conference in Manchester and other centres on the housing question, and have sent representatives to a series of informal conferences on the subject convened by the National Housing and Town Planning Council. Generally speaking, the society is keeping closely in touch with this important problem, and actively co-operating in the various efforts which are being made to deal with it.

The society was also represented at the Housing and Town Planning Conferences, held at Oxford, in April, and at Leamington,

in October, and the following members of the society are members of the Technical Conference organised by the National Housing and Town Planning Council. Committee No. 1:—Mr. E. C. P. Monson, F.R.I.B.A. (past-President), Vice-Chairman; Mr. W. F. Monro and Mr. A. Alban H. Scott (Senior Vice-President). Committee No. 2:—Mr. Geo. H. Paine (Hon. Treasurer); Mr. E. J. Partridge, F.S.I. (Junior Vice-President); Mr. E. J. Sadgrove, F.R.I.B.A. (President); Mr. Noel D. Sheffield (Hon. Secretary), and Mr. Percy B. Tubbs, F.R.I.B.A. (past President). Committee No. 3:—Mr. A. D. Greatorex, M.Inst.C.E.; Mr. Percy B. Houghton, and Mr. C. T. Ruthen, F.R.I.B.A.

SCIENTIFIC RESEARCH.

Further progress has been made in this matter. The council adopted the report of the sub-committee as to the lines on which certain investigations might be pursued, and submitted a scheme to the Department of Scientific Research in September. The society's proposals have been under consideration by the Advisory Council, and have been referred by them to the Building Materials Research Committee, appointed by that department, under the chairmanship of Mr. Raymond Unwin, with Mr. E. Leonard, of the Local Government Board, as its secretary.

CONFERENCE OF ARCHITECTURAL SOCIETIES.

By invitation of the Manchester, Liverpool and Birmingham Architectural Societies, three representatives of the society, viz., Mr. E. J. Sadgrove, F.R.I.B.A., president; Mr. A. J. Murgatroyd, past vice-president; and Mr. C. McArthur Butler, secretary, attended a conference of Architectural Societies in Manchester in April, when questions of professional interest more particularly affecting provincial architects were discussed. This was followed by a meeting of presidents in London, attended by Mr. E. J. Sadgrove, F.R.I.B.A., when these matters were further dealt with. Schemes are under consideration by sub-committees relating to research into such subjects as ventilation, heating, and acoustics, and also the development of the society's examinations, more particularly in relation to architectural design.

THE EXAMINATIONS.

Examinations to qualify for membership and graduateship of the society were held in London, Liverpool, Birmingham, Leeds, and Cardiff, on March 27 to 30. Five candidates were admitted to the examinations, of which number three satisfied the examiners.

ASSESSMENT OF DAMAGE TO BUILDINGS BY MILITARY AUTHORITIES.

It having been represented to the council that the assessors appointed for this purpose by the military authorities were not always acquainted with such work, and that it would be done to more advantage by skilled professional men, the council took the matter up with the Architects' War Committee. It is understood that this state of things has since been remedied.

PROFESSIONAL DEFENCE.

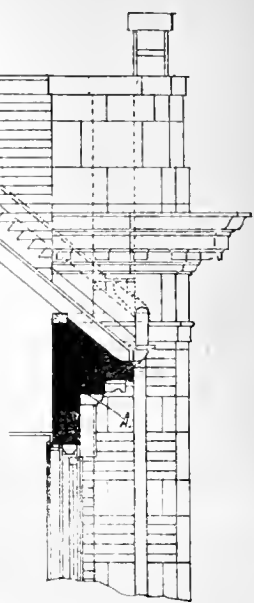
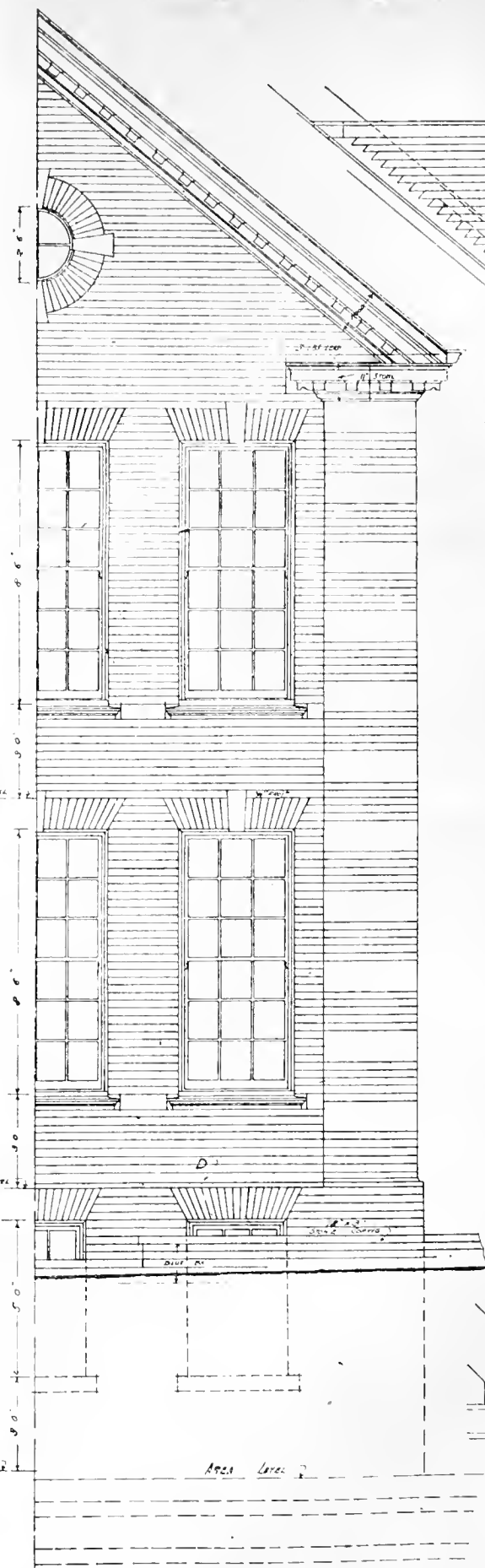
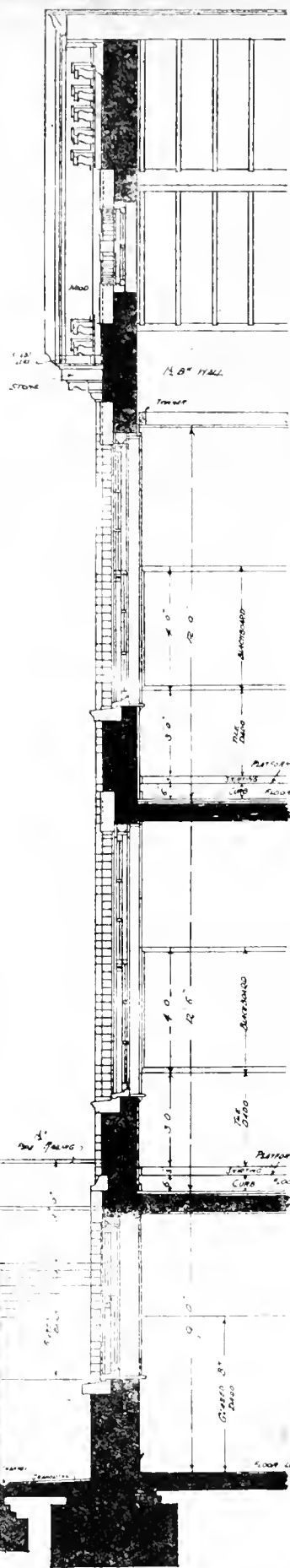
A case involving the liability of an architect for dry rot, alleged to be due to his negligence, came before the Society's Defence Committee, but as the case was eventually settled out of Court, it was not necessary for the Society to take any further steps. Another member was advised as to a contractor's claim for extras on a pre-war contract, alleged to be due to circumstances caused by the war. Other cases have included points under the London Building Act, and questions of easements and of professional charges.

FINANCE.

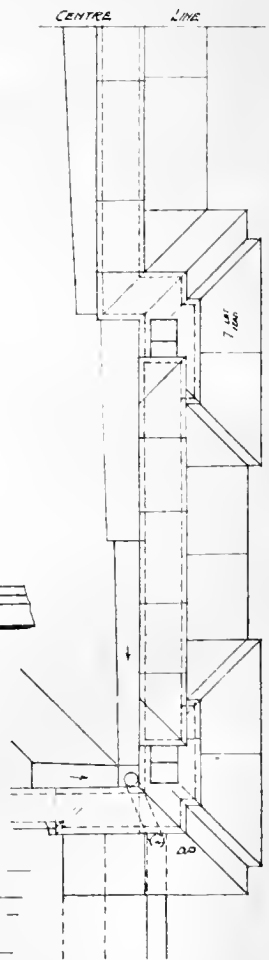
The revenue account and balance-sheet for the year ended October 31, 1917, shows a reduction in the total expenditure, and an increase in the surplus for the year.

The following comparative table of some of the principal items of income and expenditure shows that at the end of the third year of working under war conditions, while the total income has decreased by £579 the total expenditure has been reduced by £921, and the surplus for the year is more than 100 per cent. better than the last pre-war

(Continued on page 37.)



SECTION SHOWING
RETURN OF UPPER PART OF
CENTRE BLOCK.

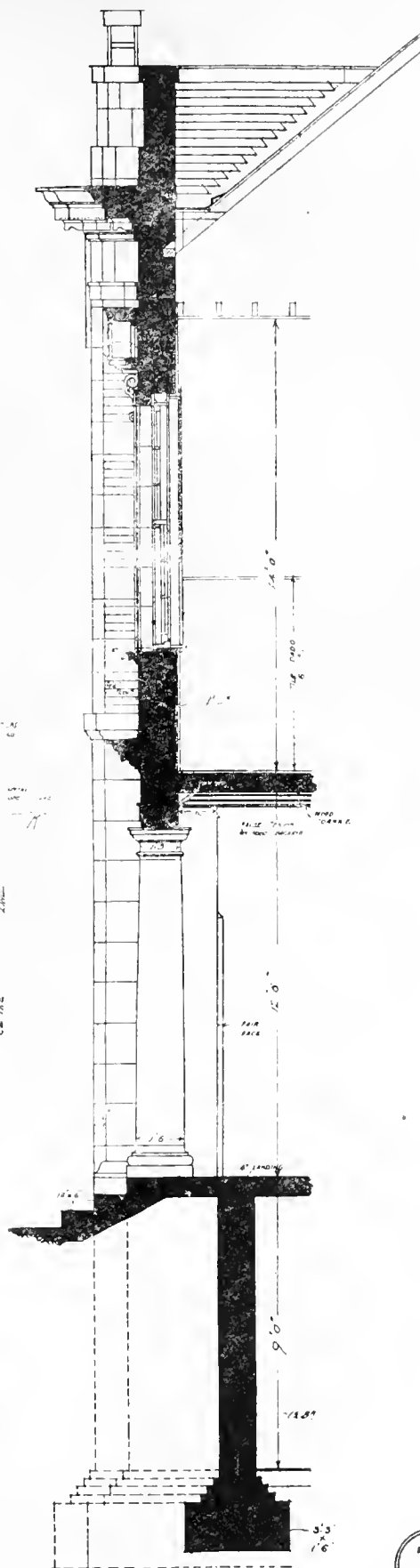


HALF PLAN OF COPING
TO CENTRE BLOCK.

SCALE - HALF INCH

SECTION THRO' GABLE.
ST MARTIN'S HIGH SCHOOL, TULSE HILL

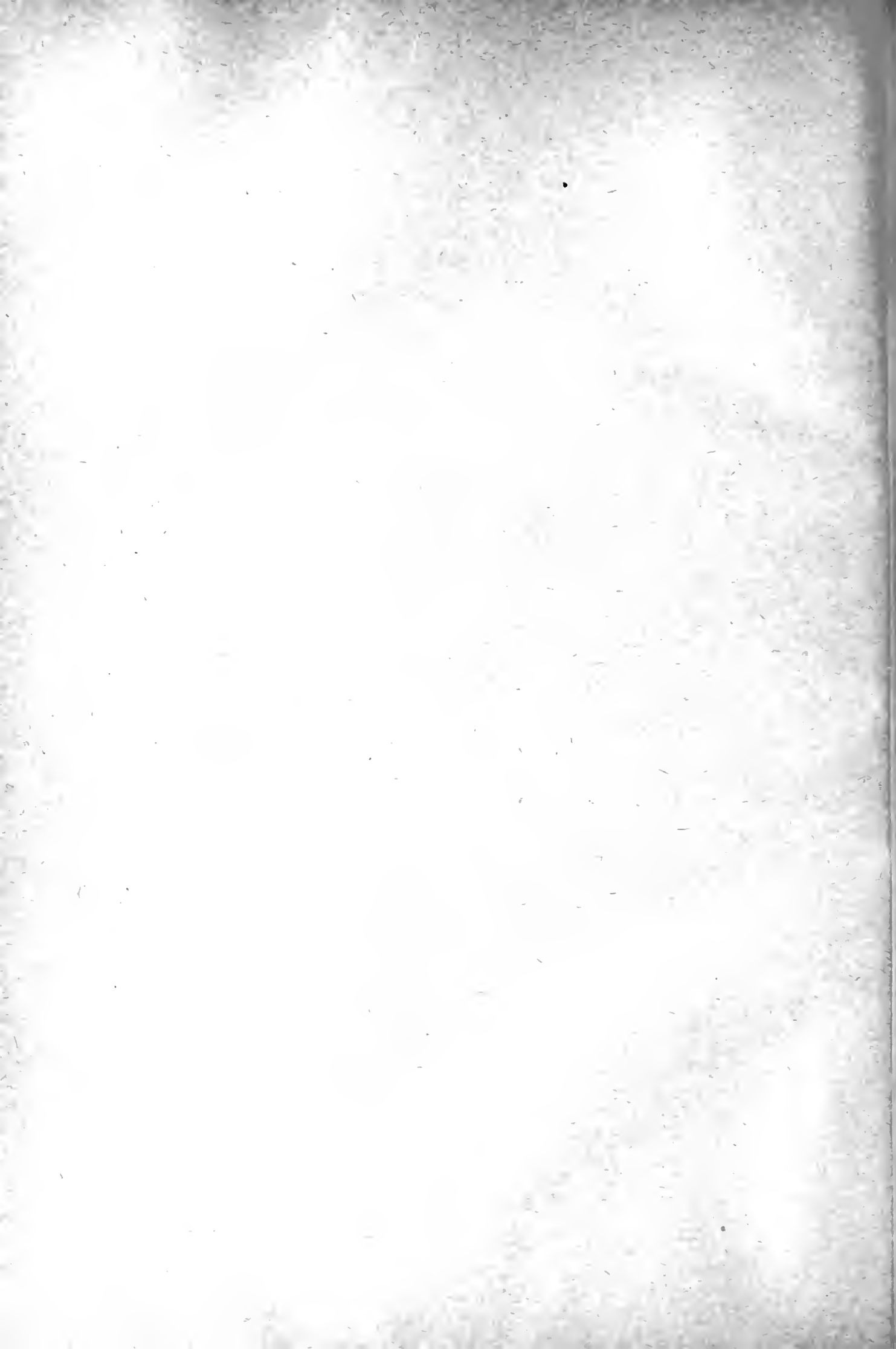
HALF ELEVATION OF GABLE.

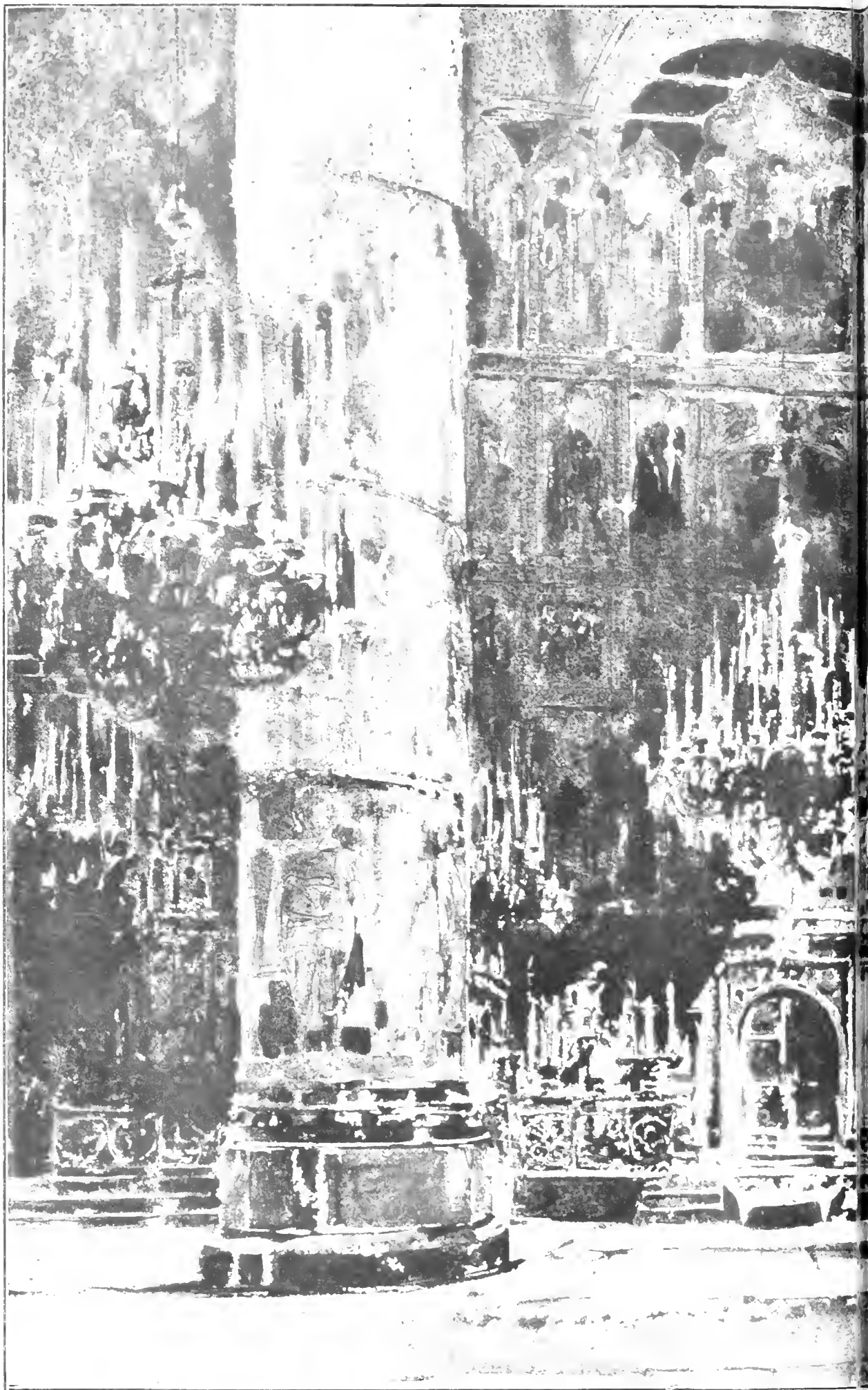


SECTION
THRO ENTRANCE

B CARTER PEGG FRLWA

HESTON 29 Jan 1915-





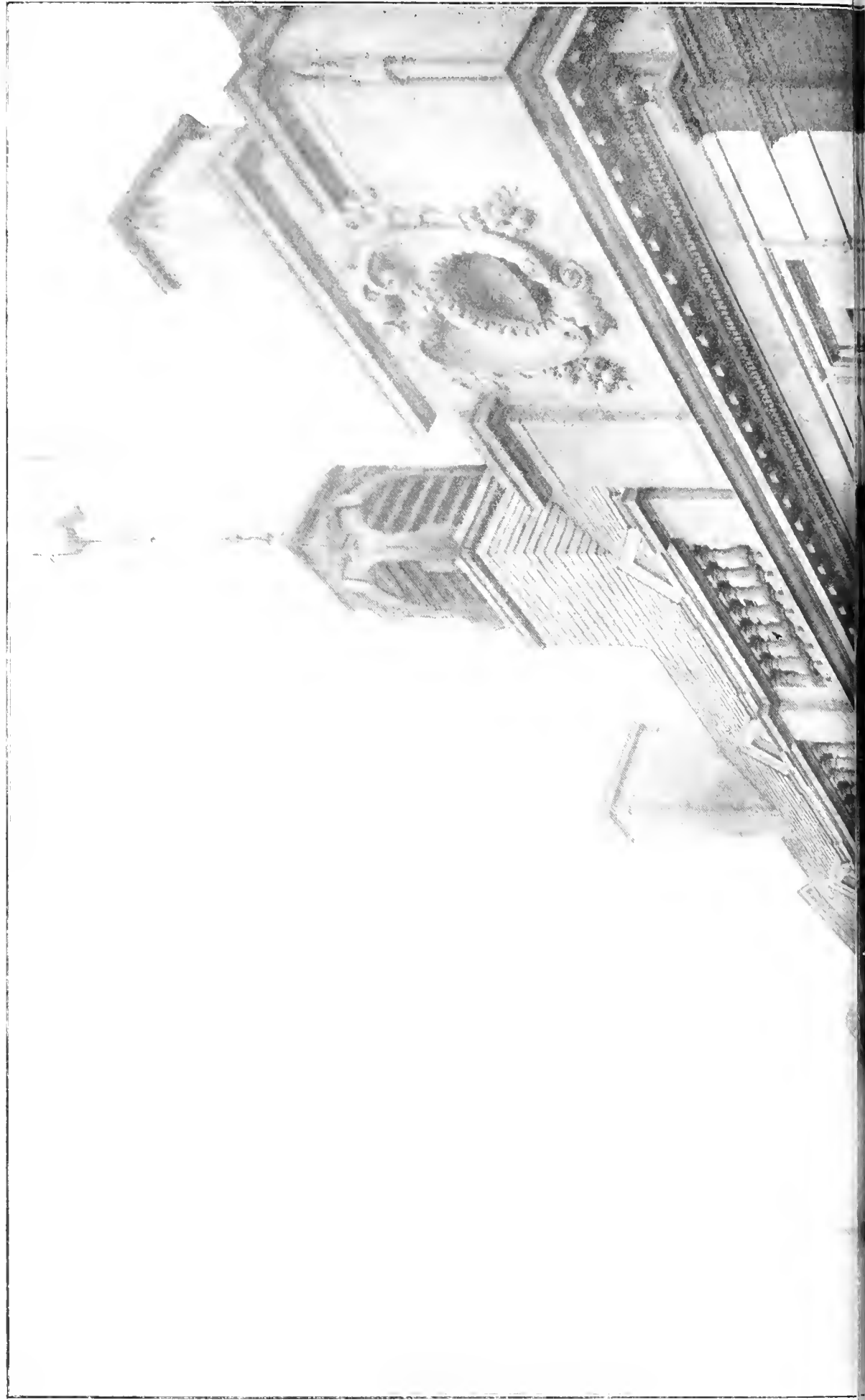
THE OUSPENSKI SABOR OR CATHEDRAL OF THE ASSUMPTION
RIO DE JANEIRO. FORNAXII, Architect, 1872. From

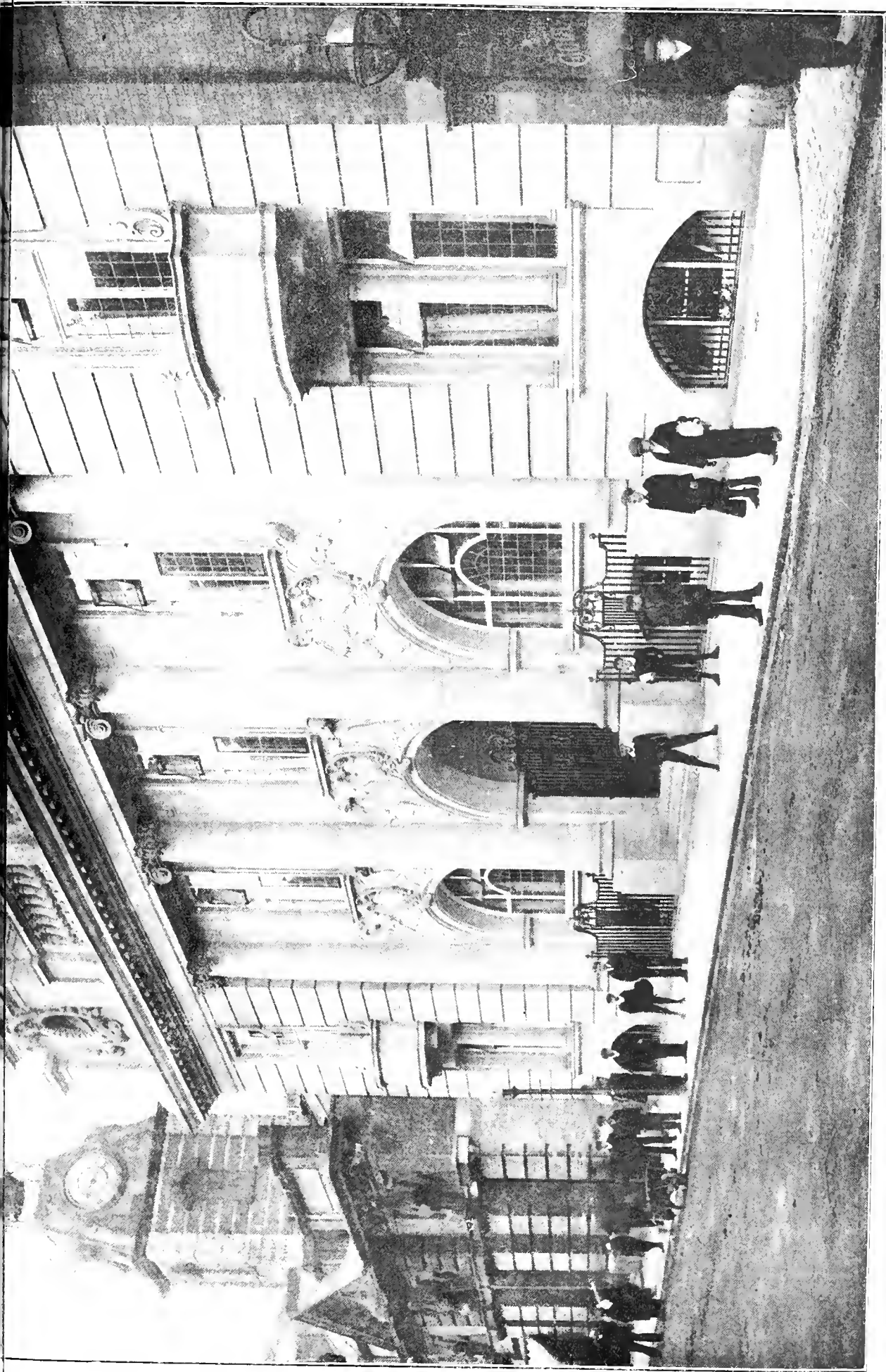


IN, MOSCOW, WHERE THE CZARS WERE CROWNED.
Water Colour Drawing by Mr. WILLIAM WALCOL.

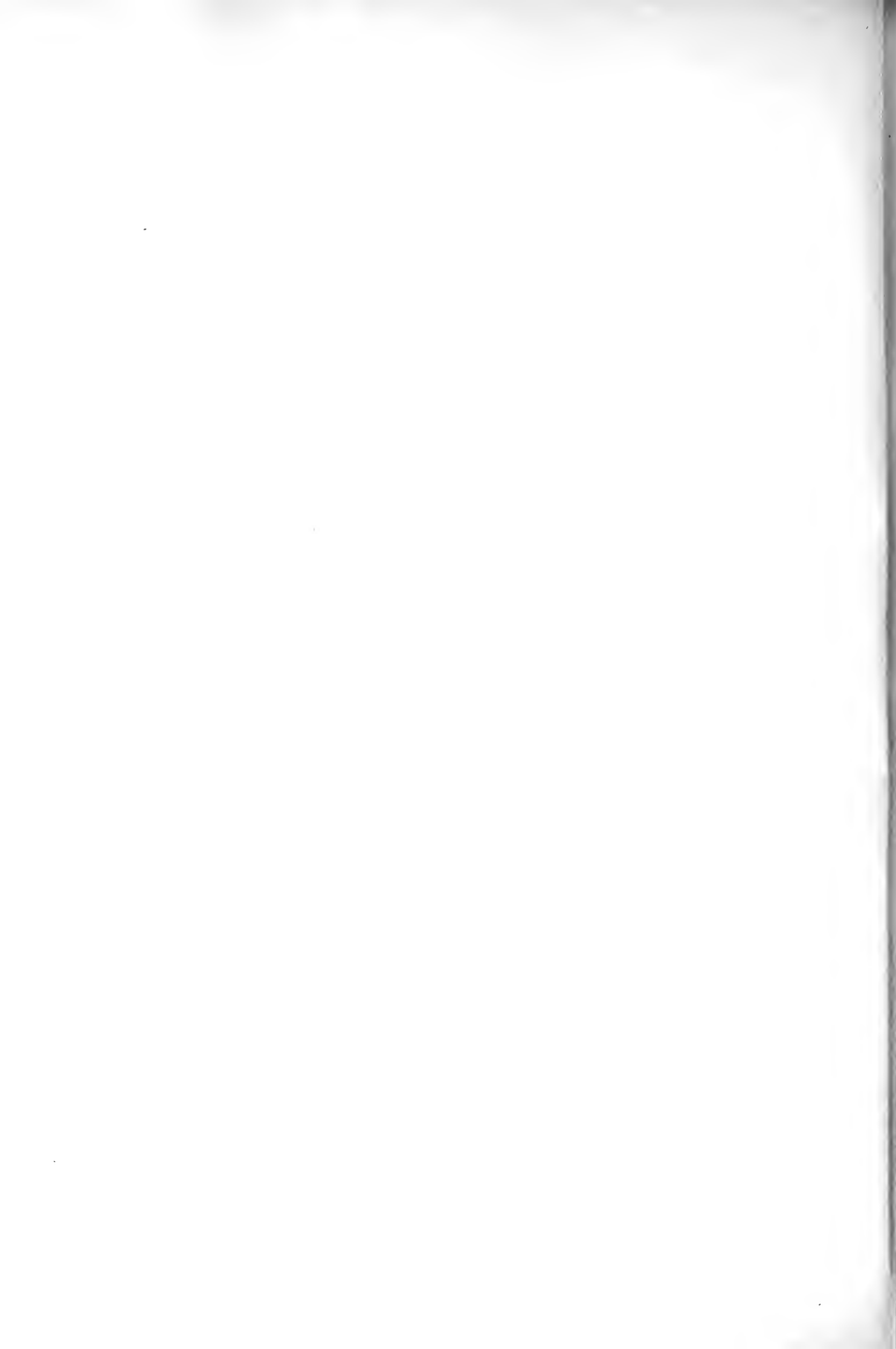


THE BUILDING NEWS, JANUARY 9, 1918.

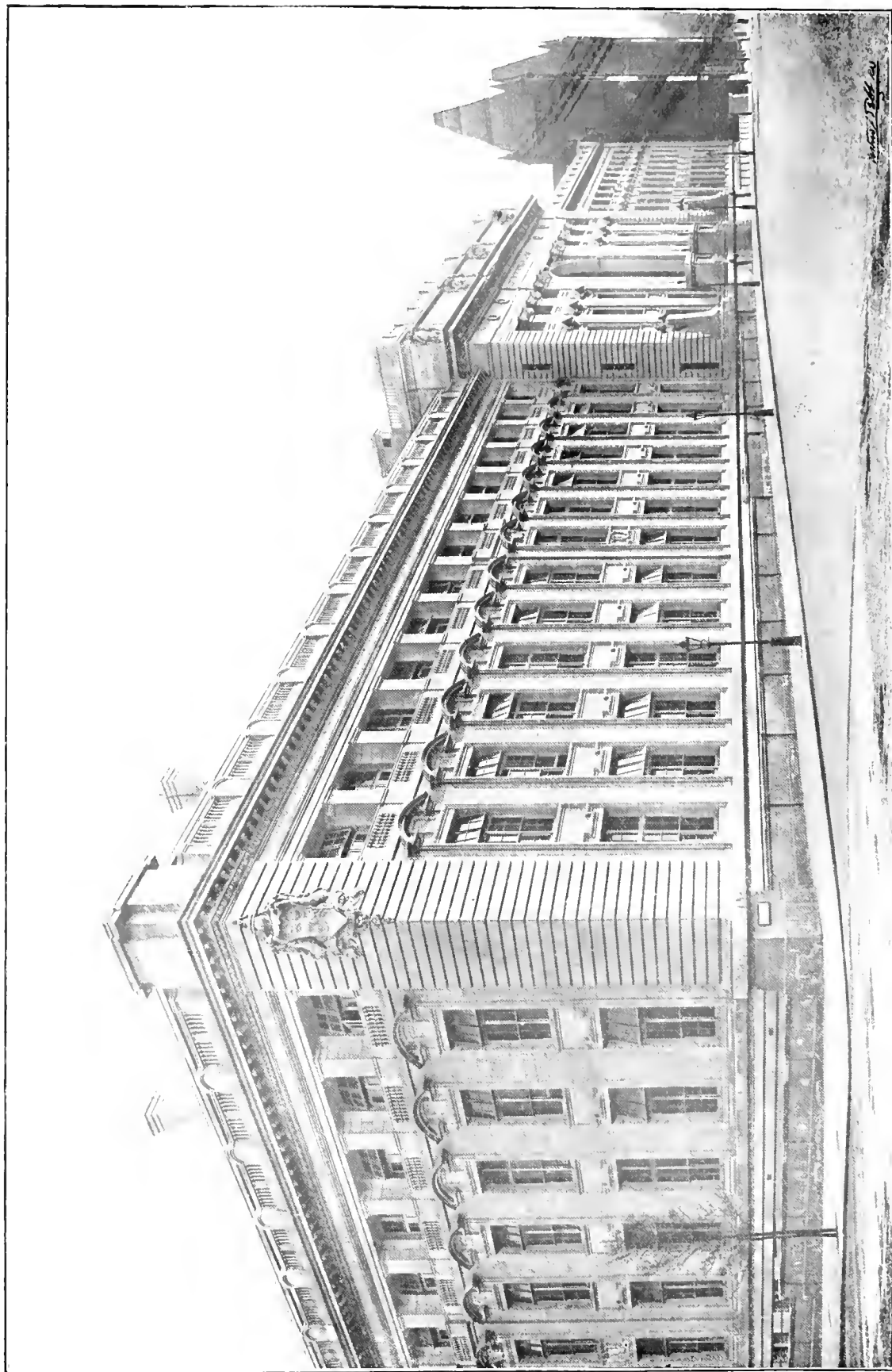




MUNICIPAL BUILDINGS, CREWE, CHESHIRE.—MR. HENRY T. HALES, F.R.I.B.A., President, Royal Institute of British Architects, Architect.



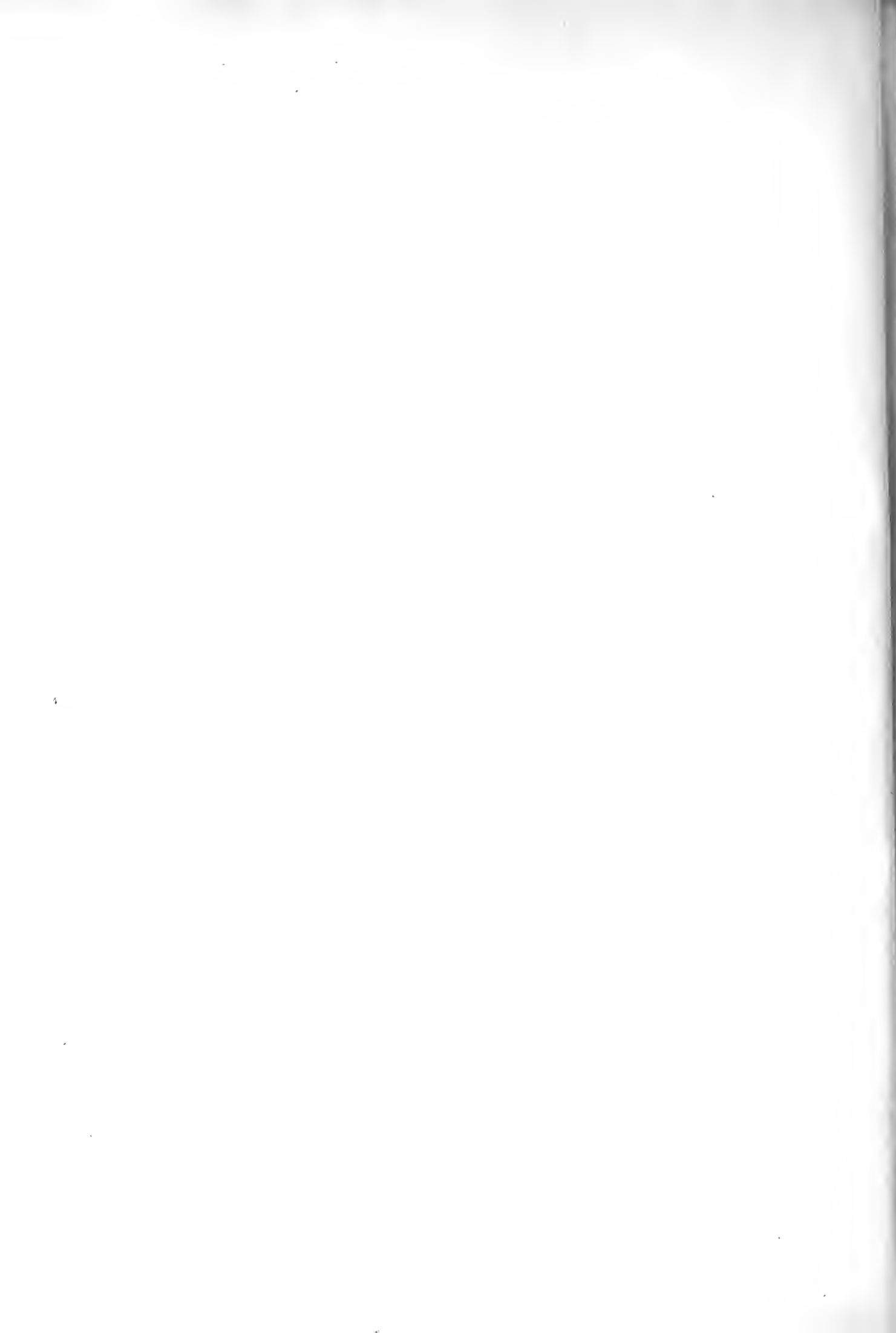
THE BUILDING NEWS, JANUARY 9, 1918.



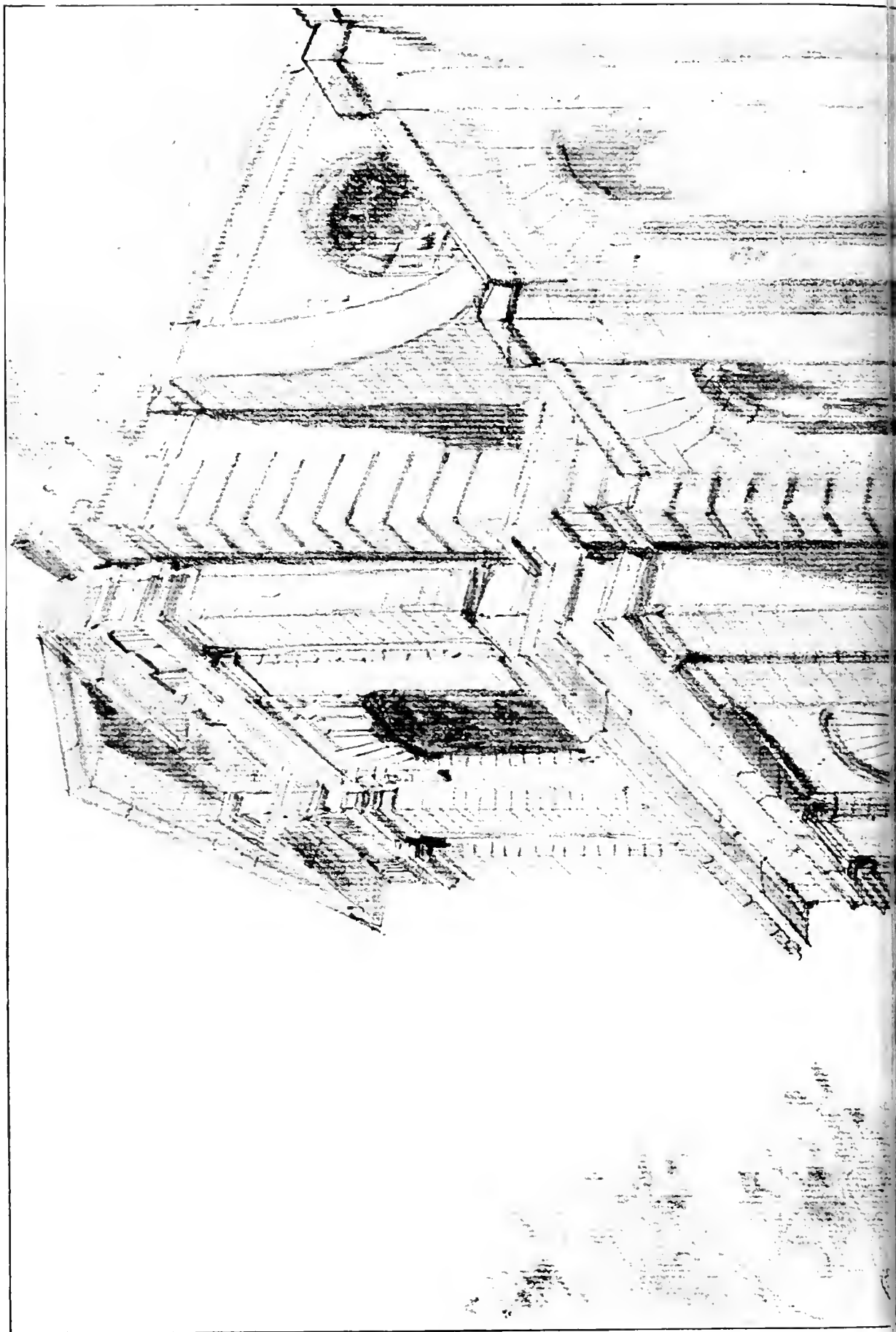
GOLDSMITHS' EXTENSION OF THE CITY AND GUILDS (ENGINEERING COLLEGE), PRINCE CONSORT ROAD, SOUTH KENSINGTON.—Sir Aston Webb, K.C.V.O., C.B., R.A., F.R.I.B.A., Architect.

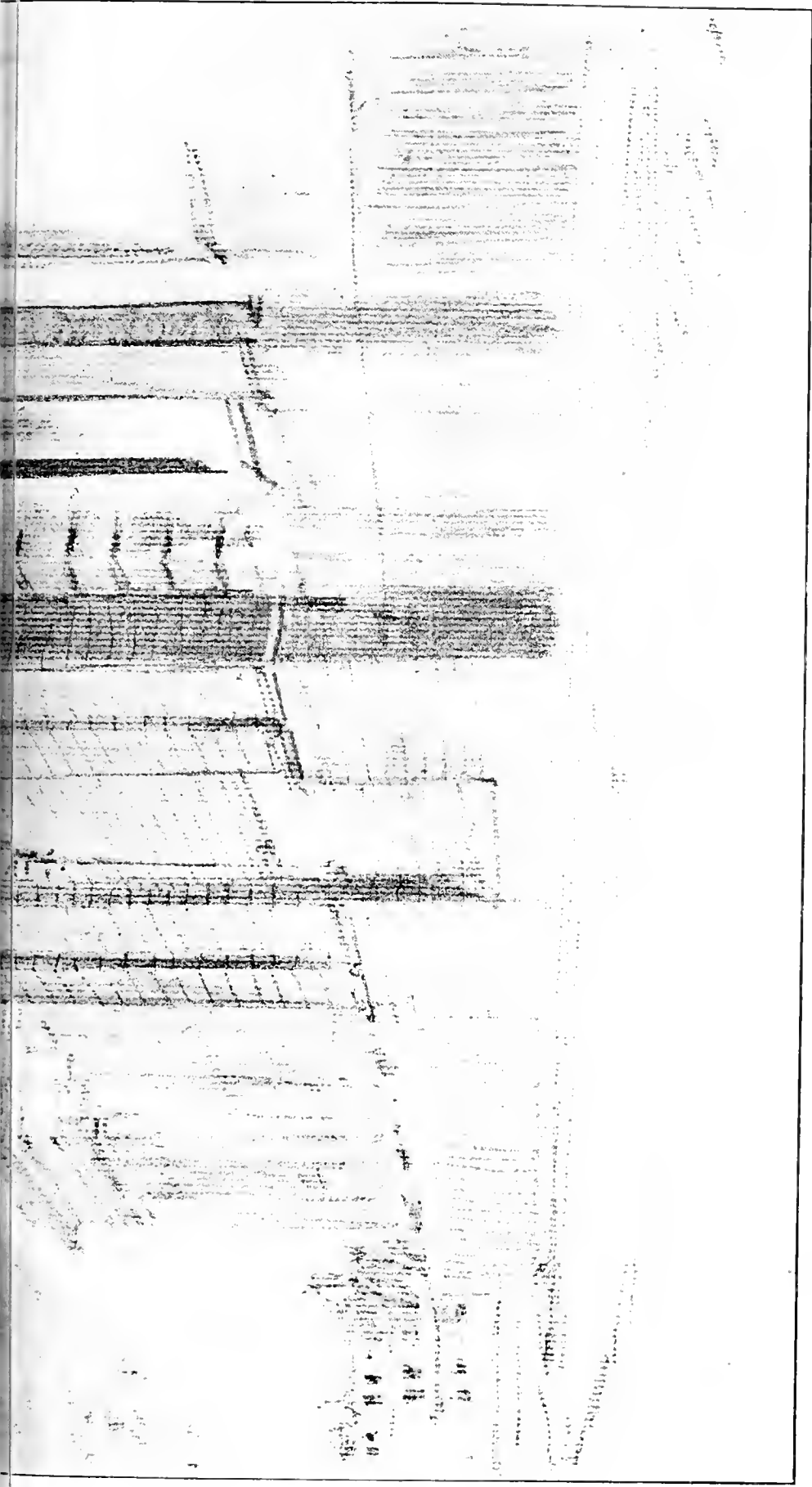


WARD AT THE MCCAUL HOSPITAL, WELBECK STREET, W.
Decorated in accordance with Mr. H. Kemp Prossor's Curative Value Colour Scheme.



THE BUILDING NEWS. JANUARY 9, 1918.





THE CATHEDRAL OF LA ROCHELLE, FRANCE : THE SOUTH TRANSEPT.
JULES JACQUES GABRIEL, Architect, 1740. (A Pencil Drawing made on the spot by Mr. REGINALD BLONFIELD, R.A.)

Our Illustrations.

THE USPENSKI SOBOR, OR THE CATHEDRAL OF THE ASSUMPTION, MOSCOW.

[A description of this illustration will be found in our first article in this issue.]

MUNICIPAL BUILDINGS, CREWE.

This photograph has not been published before, and it represents one of the most successful of the many civic buildings erected by the President of the Royal Institute of British Architects, Mr. Henry T. Hare, F.R.I.B.A. Though the work is by no means the largest of his similar considerable series, the design was chosen in public competition, and ranks as typical of the English Renaissance adapted to contemporary requirements and municipal business. It is handled in a broadly effective manner, and based on an excellent plan. The arrangements provide well-lit public offices in two main blocks, with a big, commodious staircase in the midst, flanked by good areas for ample windows, the council chamber being situate to the rear in a quiet position, which is always desirable. The façade is faced with Portland stone, and sculpture is effectively subordinated to the architectural lines.

THE CATHEDRAL OF LA ROCHELLE, FRANCE: THE SOUTH TRANSEPT.

This fine example of French ecclesiastical architecture of the eighteenth century was designed by Jules Jacques Gabriel about 1740. It stands on the site of the Church of St. Barthélemy, which was entirely destroyed in the seventeenth century, with the exception of the tower, which still stands at the east end. A local guide-book of La Rochelle (1873) described the church as "une lourde construction de style Grec." There is nothing Greek about it, and it is, in fact, a dignified design, the work of a man who knew perfectly well what he was about, very big and simple in treatment. The great scale is handled throughout with a sure and resolute hand. The buttresses on the exterior of the church stop short of the cornice, so that the latter is carried round in one unbroken sweep, without the irritating breaks which disfigure much French work of the seventeenth century. Gabriel had a genuine sense of the great line. In the interior, which is all in white stone, the entablature of the Doric order of the nave is continued all round the church with excellent effect. As to the plan, Gabriel followed the orthodox lines—nave and transepts, with side aisles and chapels beyond. The east end is semi-circular, with ambulatory and chapels, and beyond it is a Lady-chapel, oval in plan. The original intention appears to have been to build two towers at the west end (the lower part of the south-west tower is shown in the sketch), but the money ran short. These towers were never completed, and the blocks left for carving on the pediment and the key-block over the entrance are still uncarved. The work was continued by Jacques Ange Gabriel, and most of the building appears to have been completed under his direction. The total length of the church inside is about 300 ft., and the width of the west front, out-to-out, about 140 ft. The sketch was made on the spot in 1909 by Mr. Reginald Blomfield.

NEW HIGH SCHOOL FOR GIRLS FOR ST. MARTIN'S-IN-THE-FIELDS, TRAFALGAR SQUARE, TO BE BUILT AT TULSE HILL.

In the BUILDING NEWS for December 26 we published the front elevation of this important and typical new school for girls, when we printed large copies of the two principal and mezzanine plans. Some particulars of the work were then furnished in the letter-press. Owing to the changes which have of late years taken place in Charing Cross Road and parish of St. Martin's-in-the-Fields, it has been found necessary to erect a new high school elsewhere, and the site selected is at Tulse Hill. We shall give further drawings at an early date. We now give details of the elevations. Mr. H. Carter Pegg, F.R.I.B.A., of Victoria Street, S.W., and Croydon, is the architect.

GOLDSMITHS' EXTENSION OF THE CITY AND GUILDS (ENGINEERING COLLEGE), PRINCE CONSORT ROAD, SOUTH KENSINGTON, S.W.

This photograph was exhibited at the Royal Academy this year. Sir Aston Webb, R.A., K.C.V.O., C.B., is the architect. A four-page illustration, giving the elevation and plans of this building, was published in the BUILDING NEWS, May 5, 1911. Since that date the buildings have been completed as shown by the present picture; but the groups of sculpture seen in the original design have yet to be added in front of the central entrance. The Students' Union, provided by the Governors of the Imperial College of Science and Technology, and erected in Prince Consort Road, was illustrated in our pages for August 23, 1912, from a photograph lent us by the architect, Sir Aston Webb, with the plans of both floors. This building lies to the west, at the rear of the Albert Hall.

THE KEMP PROSSOR COLOUR CURE WARD AT THE McCaul HOSPITAL.

With the sanction of the Deputy Assistant-Director Medical Service, London District, Mr. H. Kemp Prossor, the well-known colour specialist, has decorated one of the smaller wards at Miss McCaul's Hospital for Officers in Welbeck Street, W., in accordance with his theories on the curative values of certain colours. Our illustration shows a corner of this ward, but reproduced as it is in black and white can give our readers no idea of the cheerful, sunshiny effect which the actual colours produce. The room, which is used for patients suffering from shell shock, is decorated in a scheme of sunlight yellow for the walls, firmament blue for the ceiling, spring green for the woodwork, and sunlight primrose for the furniture and floor. We understand that the results have been so encouraging that another and larger ward of the McCaul Hospital is to be similarly decorated. Matone flat oil paint, the material used, is made exactly to Mr. Kemp Prossor's colour specification for the decoration of shell-shock and nerve wards on hospitals where it may be desired to adopt the colour cure so successfully inaugurated at the McCaul Hospital.

THE SOCIETY OF ARCHITECTS.

(Continued from page 24.)

year. The most marked decrease in expenditure is in household expenses, postages, printing and stationery, which, it will be observed, have been reduced from year to year:—

	Pre-war. 1913-14.	—War Period— 1914-5.	1915-6.	1916-7.
Income	£ 2,903	£ 2,686	£ 2,488	£ 2,324
Expenditure	2,607	2,360	1,909	1,686
Annual surplus	£ 296	£ 326	£ 579	£ 638
General expenses	97	81	78	77
House	131	131	54	55
Postages	128	73	49	47
Printing and stationery	156	136	80	45
Rent, rates, and repairs	212	199	203	226
Salaries and war allowances	553	589	611	681
Legal	30	76	16	—
"Journal"	455	412	286	169
"Year Book"	163	133	130	100
Depreciation	174	239	275	193
Donations	229	52	26	24

It is by a gradual reduction of working expenses and the practice of economy in office administration that the Society has been able to achieve this result in the face of necessary increases in other directions, such as war allowances to members of the staff on military service, and the salaries of substitutes, the loss of income from the many members serving with H.M. Forces, whose subscriptions have been remitted, and the inability of some other members to continue their subscriptions for the time being owing to circumstances caused by the war.

The policy of placing the whole of the surplus for the year to reserve for bad debts has been continued, and the balance-sheet shows a decrease in liabilities and an increased total surplus of £3,342.

The Society's original holding of £500 War Loan has been converted to the new 5 per cent. stock, and additional stock has been purchased, making the total £850 so invested.

NEW METHOD OF FOUNDATION CONSTRUCTION.

A radical change in ordinary building methods has been made practicable by a new development in the construction of foundations in sand for heavy buildings. The new method, which has been applied to the deep foundations of tall office buildings in New York, has effected an important economy of time and cost by the combination and amplification of features already adopted for other uses, so that the new method, although novel as a whole, is neither unusual nor experimental in detail.

By its use the installation of much heavy plant and the sinking of pneumatic caissons or deep cofferdams has been avoided, a large amount of heavy pile-driving eliminated, an equal settlement of foundations and uncertain loading of piles prevented, and much of the time heretofore used exclusively for foundation work has been saved, so that, after the site is available, the erection of the superstructure is commenced, and can be completed several months sooner than is ordinarily the case. A particular application of this method is described in "Contracting."

CONDITIONS, REQUIREMENTS, AND TIME.

The 110, William Street office building, with fronts of about 69 and 121 ft. on William and John Streets, New York, is a steel cage building, with twenty stories above the curb and two stories below. It has in all thirty-seven columns, most of them loaded with 1,000 tons or more, and is built on a stratum of fine sand and clay overlying rock about 120 ft. below the curb, with ground water level about 23 ft. below the curb.

Twenty-four of the columns are located in the exterior walls, and the remaining thirteen columns are supported on eleven separate footings.

It was required that the foundations should have abundant capacity and stability, and should be safe against any probable disturbance of the soil by future construction of adjacent deep foundations.

In accordance with ordinary New York practice under such conditions, long piles driven to refusal or piers carried to rock were considered. The character of the soil and the depth of the rock made open cofferdam work impossible and pneumatic caisson work very costly, while steel piles, if driven to rock or to refusal, would have required much severe driving, making their installation a slow and expensive operation.

In competition with these methods the contract for foundations was awarded to Smith, Hauser and MacIsaac for a foundation consisting of large hollow steel piles sunk to a comparatively small depth, filled with concrete before the building was erected and subsequently driven to refusal, tested to 50 per cent. above their working load, and permanently connected to the substructure during the erection of the lower stories of the superstructure, thus providing a high-class, permanent foundation with a large factor of safety at a cost materially less than that of the other kinds considered, and so quickly ready to receive the columns that it expedited the completion of the building by about six months.

INSTALLATION OF PILES AND CONSTRUCTION OF PIERS.

Adjacent buildings were underpinned with new footings where necessary, and the general excavation was carried down to a depth of about 24 ft. below curb level. Pits and trenches were sheeted down to an average depth of 9 ft. more, being about 4 ft. below ground-water line, as required for a continuous concrete footing around all four sides of the building and for the eleven piers for interior columns.

As the pits were excavated they were drained by pumps, and a total number of 525 19-in. sectional steel piles from 5 to 10 ft. long were driven by sledges. The earth in them was excavated by long-handle scoops and the piles were filled with 1:2:4 concrete, made with Lehigh cement and gravel. When the concrete was about twenty-four hours old a small portion of it was removed close to the top of the steel shell, to provide clearance for the connection of an additional upper section if necessary. After the con-

crete was sufficiently set, 12 by 12 in. short vertical posts were set on top of the piles, with their upper surfaces in the planes of the bottoms of the foundation piers.

The pits were then backfilled to the tops of posts, care being taken in case of the deepest ones to spread a few inches of gravel in the bottom and set on it an open pile length to serve as a sump after the pit was backfilled. Where necessary forms for the foundation piers were built in the pits and trenches, reinforcement bars were placed, and the concrete, mixed in a chain-belt machine, was discharged into buckets, hoisted by the derrick, and emptied into a hopper on a low wooden tower, whence it was chuted into cars on an elevated runway that delivered it to the different forms. Sand and gravel delivered by trucks in the streets were shovelled by hand into the mixer hopper.

The trench for the exterior column footings was 7 ft. wide, sheeted with horizontal 2-in. boards braced by transverse struts bearing against 2 by 12-in. vertical strips covering the butt joints of the sheeting. The footing, 4 ft. 4 in. wide and 4 ft. deep, was reinforced by twenty-eight longitudinal bars 1½ in. square and transverse stirrups, thus forming a very massive continuous girder competent to distribute the 1,000-ton column loads for a considerable distance. Under these girders the short foundation piles are arranged about 30 in. apart, in an outer row, and in groups of two or more under the columns adjacent to them in an inner row.

LOADING, TESTING, AND DRIVING THE PILES.

Pits were dug alongside the piers and the backfill excavated under them in successive sections, exposing the tops of the piles and the wooden posts seated on them. The posts were successively removed and a pile cap placed on each pile. Then a 175-ton Watson-Stillman or Dudgeon hydraulic jack was set on the cap blocked up against the concrete footing above and operated until a pressure of at least 75 tons had been applied, usually driving the pile from 1 to 3 ft. deeper into the sand and maintaining it there until further penetration ceased.

After the jacking under the piles was finished a pair of vertical steel columns was placed on the cap, one on each side of the jack, and wedged against bearing plates on the under surface of the concrete footing until each of them had taken a load of about 6 tons. The jack was then slacked off and removed, transferring all the load to the wedging columns and preventing any upward displacement. Thus all the piles under the footings were tested, the loads transferred permanently to them, and ample stability provided for a working load of 50 tons on each pile without any probability of future settlement, the sand under the pile having already been compressed considerably in excess of maximum permanent loading.

After the piles were thus loaded the pits around them were filled with concrete up to the bottom of the old footing, thus increasing its depth 4 or 5 ft. and adding to the stability of the structure.

To prevent the formation of cavities short pieces of grouting pipe, usually one for every pile, were built in the upper part of the concrete footing in vertical or inclined positions.

As soon as the foundation piers were sufficiently seasoned I-beam grillages were set on them to distribute the column loads, and the erection of the steelwork superstructure was commenced. After this had been carried up to a height of about four stories, operations were commenced to complete the driving of the foundation piles and to subject them to test loads and initial compression much greater than they will endure in service.

PILES, CAPS, AND COLUMNS.

The cylindrical piles were made with riveted sections 2 ft. long of 7 64-in. steel plates connected by inside sleeves 4 in. wide made of the same material.

The pile cap was a solid casting about 3 in. thick, with a circular projection on the under side to fit the interior of the pile. The casting was made longer than it was wide, affording bearing for the hydraulic jacks in the centre and for the wedging column on each end. A small hole through the centre of the casting was provided to act as a sort of vent

when the casting was bedded on soft mortar covering the top of the pile, and thus allowed any air to escape and permitted mortar to rise through the hole, ensuring perfect bearing on the underside of the plate.

The vertical wedging columns were nominally 6-in. I-beams or their equivalent, safe for loads of more than 25 tons. For convenience short lengths of heavy 12-in. I-beams from the contractor's stock were cut in two along the centre line of the web by the oxy-acetylene torch, making two heavy T-sections, each consisting of one flange and half the web, which made more convenient and efficient columns than the regular 6-in. I-beams would have. The work was done in about six months by a force varying from ten to thirty-five men.

PROFESSIONAL AND TRADE SOCIETIES.

NATIONAL SOCIETY OF ART MASTERS.—Last Wednesday and Thursday the National Society of Art Masters held their annual meeting at Manchester in the School of Art. The total number of full members of the association is 388, as against 400 last year, and of district members 249, as against 252. Mr. Charles Ripper (Lancaster), in his address as president, said that art education had certainly been neglected in this country. Under Mr. Fisher's scheme, the art schools would be called upon to play an important part in the further education of young employers who were engaged in trades where a knowledge and appreciation of art or technical artistic skill was necessary. The question arose how far trade conditions should dominate the curriculum. New requirements would involve their coming into a more close and intimate relationship with many trades and industries—to ensure the best possible results there were needed the co-operation, sympathy, and aid of the manufacturers themselves, their foremen, and skilled workmen. Small consideration had been given in the past to the laborious training required of teachers in order to obtain art qualifications. The time given largely exceeded that required in any other profession, and if suitable candidates were to be drawn into their ranks definite provision must be made for salaries which would correspond with the long and exacting training. A satisfactory scheme of pensions for secondary and technical teachers would considerably improve their outlook. He suggested that a conference might be instituted which would consist of representatives of all bodies or societies engaged in artistic pursuits, including the Royal Institute of British Architects, the Design and Industries Association, the Art Teachers' Guild, and their own society, with manufacturers, distributors, and workmen in order to unify their efforts. On the motion of the president, a resolution was adopted, without debate, urging upon the Government "the great national importance of proceeding at the earliest possible date with Mr. Fisher's Education Bill."

OBITUARY.

Mr. Charles Chancellor, who died at his residence, Bellefield, Chelmsford, last Wednesday week, was born at Chelsea in 1825. He was educated privately at Kingston-on-Thames, and at the London University obtained the first prize for Architecture as a Science, and the second for Architecture as an Art, served his articles in the City, and was afterwards in the office of Mr. Ewan Christian, architect to the Ecclesiastical Commissioners. Later he practised on his own account in London and Chelmsford. He was appointed surveyor to the Mansion House Committee at the time of the earthquake in Essex in 1884, and was presented by the Lord Mayor, Sir Robert Fowler, with an illuminated address thanking him for his services. As a diocesan surveyor under the Ecclesiastical Dilapidations Act he was known to most of the clergy of Essex and Herts; and in his profession as an architect he designed many churches and public buildings. A founder of the Essex Archaeological Society he contributed voluminously to its publications, and in 1890 published "The Ancient Sepulchral Monuments of Essex." Mr. Chancellor joined the Volunteers in 1859, being

No. 1 on the Chelmsford roll, and after passing through all ranks he retired as lieutenant-colonel and commandant of the 2nd V.B.E.R. in 1888. He was the first Mayor of Chelmsford, and held that office seven times; was a member of the Essex County Council, a justice of the peace for Essex, and chairman of the Chelmsford Grammar School governors.

Our Office Table.

At a meeting of The Royal Drawing Society, held in the Mathematical Theatre of University College last Wednesday, Mr. T. R. Ablett, founder and art director of the Society, read a paper on "Draughtsmanship." Good draughtsmanship, Mr. Ablett maintained, was an index of the mental process that inspires and guides the manipulation. Draughtsmanship was, therefore, of many different kinds, and each kind indicated a particular interest or sympathy in the observer practising it. The more richly endowed the observer the more numerous the different kinds of drawing he practised. The draughtsman's first need was literal rendering. Causes of imperfection were either in the operator or due to limitations in the range of appliances used. Among imperfections in the operator he instanced want of refinement in the senses, producing lack of accuracy, insufficient reflection on the impressions received, and lack of control over the muscles used in reproducing the impressions, i.e., want of practice or training. The mental process in draughtsmanship was of the first importance, since it decides upon and directs manipulation. Consequently, the best draughtsmen will be found among the intelligent rather than the uneducated. No one could become a great draughtsman or painter unless he had unusual gifts for investigation and generalisation and pursued these by scientific method. Greater truth was possible in drawing types which represented the mind's knowledge than in the direct copying of Nature.

At Lichfield, says *Municipal Engineering*, a local gas company has been summoned, at the instance of certain consumers, for failing to provide apparatus for testing the quality of the gas they supply. As might have been anticipated, in these days, when there is no standard of quality for anything and when traders may work their own sweet will, the case was dismissed, "in view," said the chairman of the bench, "of the strict injunctions issued by the Ministry of Munitions to the various gas companies." It would be interesting to know precisely to what injunctions he referred, especially as he "thought it very desirable that the necessary works should be put in hand at the earliest possible moment."

A set of some forty-six original etchings of Liverpool and district, the work of a well-known local artist, Mr. J. Ford-Jones, have been acquired by the Library and Arts Committee for the permanent collection of prints. Mr. Ford-Jones has exhibited annually for many years at the Autumn Exhibitions of the Walker Art Gallery, and his work is well known in Liverpool and elsewhere. Apart from the high artistic value of the etchings themselves, many of the subjects portrayed are now demolished, and their perpetuation in Mr. Ford-Jones's etchings forms a historically interesting link with the past of the city.

The Scottish Rite Masons of Fresno, Cal., having decided to erect a temple and having selected an architect, were disposed, owing to war conditions, to defer this scheme until some time in the future. Before arriving at a definite decision, they very wisely called on their architect, who, with his knowledge of materials and costs and a good professional foresight, was enabled to impress upon them the advisability of proceeding with the structure and not waiting for the future, when building material prices might be very largely advanced.

The Imperial War Exhibition was formally opened on Monday, under the auspices of the Imperial War Museum, at the Royal

Academy, Burlington House, which has been lent by the Council of the Royal Academy. There are complete war records in the form of official photographs, relics, guns, and the like from the Dominions, from the Canadian War Records, Australia, and New Zealand; a naval section, which includes sea-war photographs that have not been, and are not likely for a long time to be, "released for publication"; a range of exhibits from the official Imperial War Museum, whose first formal exhibition this is; and an Air Service section provided by the Air Board. A section of the exhibition contains examples of women's work in munitions production, including a collection of photographs illustrating work on which women are employed, comprising over 500 specimens of work, and nearly 1,000 photographs. Admission to the formal opening of the exhibition on Monday was by invitation only; but the galleries are now open to the public at a charge of 1s.

An interesting little volume is published by George Allen and Unwin, Limited, 40, Museum Street, W.C., at 4s. 6d., giving the history and topography of Cordwainer Ward in the City of London by Mr. A. Charles Knight, C.C., late honorary secretary of the London and Middlesex Archaeological Society. The Ward, though not the largest of the City wards, occupies an important central position, and was subjected to a somewhat wholesale clearance in the days when Cannon Street and Queen Victoria Street were made, when a good deal of antiquarian interest was swept away from the central portion. It still, however, can claim the possession of a bit of a Roman highway in one of its narrowest streets, and a specimen of the earliest Norman architecture in the crypt of Bow Church. It contains two of the most interesting City churches—Bow Church, and St. Mary Aldermay; a third, St. Antholin, in Budge Row, has been demolished. Ten illustrations add to the interest of Mr. Knight's record.

Mr. Oliver Stanbrooke Holt, after forty years' service with the Great Central Railway Company, for twenty-five of which he has filled the responsible position of secretary, vacated his office and passed into semi-retire-

ment on December 31, 1917, his services having been retained by the directors in a consultative capacity for a period of years. During Mr. Holt's secretaryship he has been responsible for dealing with the issue of additional capital exceeding thirty-three million pounds. Amongst the numerous developments achieved by this progressive company, the most momentous change associated with his secretarial career is the extension of the Great Central system to London. On the roll of leading English railway secretaries, Mr. Holt, by virtue of his years of service, has attained to the foremost position. Mr. Holt is succeeded by Mr. James A. Campbell, who is the son of the late Major-General James Campbell, R.A. Mr. Campbell joined the staff of the Great Central Railway in July, 1915, as a personal assistant to Mr. Holt. The new secretary had previously filled several important positions, including the secretaryship of the Cuban Central Railway, Limited, and of the People's Trust Co., Limited. Mr. Campbell is a Fellow of the Chartered Institute of Secretaries and a Freeman of the City of London.

Mr. T. Stanley Beach, a student of the Society of Architects, and a lieutenant in the Royal Engineers, who was recently wounded, has been mentioned in Sir Douglas Haig's despatch.

Mr. Robert T. Harpur, Eglantine Avenue, Belfast, has offered £4,000 to erect a new Methodist church in that city in commemoration of his brother, the late Rev. Jas. Harpur.

In the ancient church of St. Augustine, at Rimini, the discovery has been made of some important frescoes of the fourteenth century of the school of Giotto. One of these contains a new and very beautiful portrait of Dante.



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TENDERS.

Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender; it adds to the value of the information.

BARNSTABLE.—For supply of two new rims to steam-roller, for the Barnstaple Town Council:—
Isaac and Sons (accepted) .. £33 0 0

BRIGHTON.—For supply of electrical fittings, for the guardians:—
H. J. Galliers, Brighton .. £43 0 0
(Accepted.)

CROWLEY.—For scavenging the town, for the Crowle Urban District Council:—
F. S. Mason (accepted) .. £150 0 0

DERBY.—For supply of boiler, etc., for the town council:—

Accepted tenders: Babcock and Wilcox, Ltd., boiler, £4,500; C. A. Parsons, Ltd., 4,000 kw. turbo-alternator, £24,000; T. W. Brackett and Co., Ltd.,



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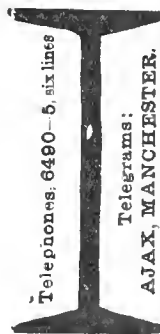
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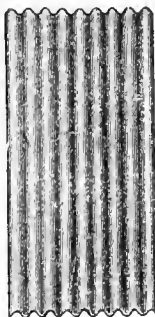
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water screen, £355; Firth, Blakeley, Sons and Co., Ltd., chimney, £230; Holmes Bros., Ltd., tramcar-wheel tyres, £53.

ILKESTON.—For painting (1) Hallam Fields schools and (2) Trinity infants' schools, for the corporation. Accepted tenders:—

(1) W. A. Booth, £30; (2) J. Godber, £35 17s. 6d.

WOLVERHAMPTON.—For brickwork filling for the reinforced concrete structure of boiler-house wing, for the corporation:—

Windsor and Co. (accepted) .. £600 0 0

LIST OF TENDERS OPEN.

COMPETITIONS.

Jan. 31.—Designs are invited for four specified types of cottages suitable for the industrial classes. A competition, under the charge of the Royal Institute of British Architects and allied societies, will be held in each of the six areas mentioned below. Premiums of £100 and £50 for the best designs of each of three types, and £50 and £30 for the fourth, will be awarded in each competition. Designs must be submitted in accordance with the conditions not later than January 13. Copies of the conditions may be obtained from the following:—Home Counties Area: The Secretary, Royal Institute of British Architects, 9, Conduit Street, London, W.1; Northern Area: Mr. H. A. Hicks, hon. sec., Northern Architectural Society, 6, Higham Place, Newcastle-on-Tyne; Manchester and Liverpool Area: Mr. Isaac Taylor, hon. sec., Manchester Society of Architects, Mansfield Chambers, 17, St. Ann's Square, Manchester; Midland Area: Mr. A. Hale, hon. sec., Birmingham Architectural Association, 18, Bennett's Hill, Birmingham; South Wales Area: Mr. C. H. Kempthorne, hon. sec., South Wales Institute of Architects, Albert Chambers, High Street, Cardiff; Southwest Area: Mr. A. J. Pinn, hon. sec., Devon and Exeter Architectural Society, 5, Bedford Circus, Exeter.

ENGINEERING.

March 30.—The Acting British Consul at Santiago reports that a decree has been issued calling for tenders for the improvement of the port of Antofagasta (Chile). By the terms of this decree the amount to be expended on this work must not exceed £1,700,000. Details may be obtained from the Port Commission Offices in Santiago, and copies are expected to be received shortly at the offices of the Chilean Legation in London, 22, Grosvenor Square, W.1. Tenders will be received up to 3 p.m. on March 30 by the Minister of Finance, Santiago.

FURNITURE.

Jan. 10-11.—The Commissioners of H.M. Works invite tenders (from manufacturers only) for the supply of (1) 200 committee tables; (2) 2,000 collapsible tables; (3) key cases, notice boards, pigeon-holes, and indicator racks during three or six months from date of acceptance of tender.—H.M. Office of Works, Storey's Gate, London, S.W.1.

PAINTING.

Jan. 12.—Painting and decorating at Fishpool Institution, Farnworth, in accordance with specifications which may be obtained from the master of the institution.—For the Guardians of Bolton Union.—H. I. Cooper, Clerk, 28, Mawdsley Street, Bolton.

Feb. 6.—Painting at various places.—For the Lancashire and Yorkshire Railway.—Forms of tender and specification may be obtained on personal application at the Engineer's office, Hunt's Bank, Manchester. Tenders, endorsed "Tender for Painting," to R. C. Irwin, Secretary, Hunt's Bank, Manchester.

Major T. Stewart Inglis, R.F.A., a member of the Council of the Society of Architects, has been appointed a Companion of the Distinguished Service Order as a reward for distinguished service in the field.

TO CORRESPONDENTS.

We do not hold ourselves responsible for the opinions of our correspondents. All communications should be drawn up as briefly as possible, as there are many claimants upon the space allotted to correspondents.

RECEIVED.—L. B. and Sons, Ltd.—M., Ltd.—O. P. and Co.—C. C. W.—G. and Son—F. W. B. Y.—W. H. S. and Son—W. E.—S. and Co., Ltd.—S. A. A.—L. E. D.—W. W. and Son—B. O. E.—J. W. G. and Co.—R., Ltd.—C. and Co.—W. S. Co., Ltd.—B. R. Co., Ltd.—G. and O.

NON NOBIS.—Yes.

B. T. L.—Please send.

PROVINCIAL.—Much puffed, but a poor system.

TO ARMS!

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ORDERS FOR THE WEEK ENDING JANUARY 19, 1918, BY LIEUTENANT-COLONEL C. B. CLAY, V.D., COMMANDING

OFFICER FOR THE WEEK.—Second Lieutenant H. J. Golding.

NEXT FOR DUTY.—Lieutenant P. Bowden.

PROMOTION.—Sergeant H. G. Hoad to be Sergeant Instructor of Musketry.

MONDAY, JANUARY 14.—No. 3 Coy., 6.30 to 8.30. Recruits' Drill, 6.30 to 8.30. Signalling Section, 6.30 to 8.30.

TUESDAY, JANUARY 15.—Lecture on Demolitions, 6.30. Physical Drill and Bayonet Fighting, 7.30.

WEDNESDAY, JANUARY 16.—No. 1 Coy. Drill, Knotting, etc., 6.30 to 8.30. Recruits' Drill, 6.30.

THURSDAY, JANUARY 17.—No. 2 Coy. Drill, Knotting, etc., 6 to 8. Recruits' Drill, 6.30 to 8.30. Signalling Section, 6.30 to 8.30. Ambulance Section, 6.30 to 8.30.

FRIDAY, JANUARY 18.—Musketry, 5.30 to 8.

SATURDAY, JANUARY 19.—Entrenchments, etc., 2.45 to 4.45. Recruits' Drill, 2.45 to 4.45.

SPECIAL NOTICES.—All drills and parades will be at Headquarters unless otherwise stated.

Volunteers are reminded that the Range at Belvedere Road is closed, and all musketry will be done at Headquarters. No member of the Corps or other person will be allowed in the Officers' Mess, the Lecture Room, the Canteen, or the Galleries during the time the Range is open.

Recruits will attend for Engineering Instruction with the Companies.

By order.

MACLEOD YEARSLEY, Capt. and Adjutant.
January 12, 1918.

Mr. William H. Town has been appointed deputy city engineer of Norwich.

A new church is to be built at Lusk, Co. Dublin, from the designs of Mr. John Robinson, architect, Dublin.

The death is announced, on the 4th inst., of Mr. Benjamin James Bucknall, at Shottery Lodge, Stratford-on-Avon, aged 82.

The report presented to the Minister of Reconstruction by the Afforestation Sub-Committee, which will be issued this week, advocates a scheme of afforestation of the most comprehensive kind.

Mr. William Hickery, of Wells Road, Knowle, and Marsh Bridge, St. Philip's, Bristol, general contractor, quarry master, and bargewowner, who died on November 7 last, has left property of the value of £38,877.

CHIPS.

Mr. Peter Aseroft, of Breeze Hill, Bootle, Lancs, builder, has left £92,711.

The death is announced, on December 26, of Mr. Frederick Wallen, F.R.I.B.A., of 96, Gower Street, W.C., and Brickett, Watford, late District Surveyor for St. Pancras for thirty-five years, aged eighty-six.

The death is announced, "accidentally killed," on December 26, while serving abroad, of W. S. Peto, sapper, R.E., younger son of Mr. and Mrs. F. K. Peto, Dursley, Glos., partner in Messrs. Whiteing and Peto, architects, Bedford Row, W.C.

A meeting of the members of the Auctioneers' and Estate Agents' Institute will be held on Friday afternoon next, January 11, at 34, Russell Square, when the president (Mr. W. H. Wells) will deliver his presidential address.

At the annual conference of the Scottish Labour Housing Association at Glasgow last Wednesday the chairman, Baillie Stewart, complained that in the main the houses erected for munition workers were unsatisfactory, and new slums were being created at heavy cost.

In a certain gas company the manager was one day speaking of the good qualities of his firm. "Yes," he said, "I quite agree with Tennyson in his poem, 'The Charge of the Light Brigade.' He says, 'Honour the Light Brigade.' "Yes," added a poor customer, "Oh! the wild charge they made!"

A memorial has been unveiled at the Mount Pleasant Convent, Liverpool, to the late Sister Mary Xavier, the poetess of the institution and the author of several well-known hymns. It takes the form of a statue, erected in a niche in one of the halls of the college, carried out from her own designs by her brother, Mr. Bernard Partridge, the cartoonist of *Punch*.

Michael Lewis Israeli, "portrait specialist," of The Grove, Hammersmith, was fined £25, with 20 guineas costs, or three months' imprisonment, at Marylebone Police Court last Wednesday, and Paola Vansittart Stewart, 50, widow, of Harrington Square, was fined £10, or twenty-one days' imprisonment, on a charge of obtaining charitable contributions by false pretences. It was alleged by the prosecution that the defendants had committed frauds on the charitable public by means of a fictitious charity known as "The Artists' War Guild."

Mr. Richard C. Jackson, F.S.A., has kindly undertaken to do the necessary repairs to the Chained Book in the City church of St. Nicholas. The book, which is several centuries old, and used to be placed by the altar, is now in a rather dilapidated condition at the other end of the church. It is still fastened by the original chain. Mr. Jackson is an old friend of the church, having presented it with a tablet encased in valuable marble to commemorate the reign of Queen Victoria, and a lamp, which is said to be 300 years old, for the altar.



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THE BUILDING NEWS

AND ENGINEERING JOURNAL.

Effingham House.

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OUR ILLUSTRATIONS.

A Library executed in oak (late seventeenth century), carried out by Messrs. Restall, Brown, and Glennell, Limited, designed by Mr. H. E. Mansfield.	
Proposed School Chapel, Bognor, Sussex. Mr. Percy B. Freeman, Architect.	

Strand, W.C.2.

An Entrance Front to a Country House. Mr. Philip Tilden, Architect.	
Charles Viner Memorial Organ, St. John's Church, Red Lion Square, Holborn, W.C. Mr. Cecil Hare, Architect.	
Types of Old Oak Furniture.	
Beaulieu, Baldslow, Sussex, to be converted to Hydeneye House School. Alterations and additions. Mr. G. A. T. Middleton, Architect.	

Currente Calamo.

Lord Leverhulme, in *Science Progress* for January, offers some practical suggestions with regard to the housing of the people, which we heartily endorse. In part they embody the course of action of the later work of the London County Council, which we have always commended, and to which we refer again this week in our first article, namely, the erection of cottage dwellings in the open outskirts of the great cities, rather than the costly clearance of slums in the central districts and the building thereon of big, unhealthy barrack dwellings. Lord Leverhulme says truly enough that our slum problem is merely a case of bad "packing," and that London, with its metropolitan area of 450,000 acres, with ten houses to the acre, and five inhabitants per house, could easily accommodate 22½ millions of people under ideal conditions, instead of 7½ millions as at present, under conditions which make slums inevitable for very many of her people. With us, he is dead against "flats" and wants cottage dwellings, ten to the acre, with a fringe of grass at the front and an allotment garden at the rear, where vegetables might be grown at odd moments, instead of only at the end of half an hour's walk to the allotment. Lord Leverhulme goes further with the bold but perfectly feasible proposition that the municipalities should acquire fringes of land on their suburbs, and give this land to those who would build houses thereon. That this would pay the municipalities well in the long run, and that meanwhile the decent private builder with no ground rent to pay, or interest on borrowed capital to meet, would soon provide houses, and that the people from the slums would gladly avail themselves of cheap transit thereto, is certain. Then the central slum areas would be empty and purchasable at a proper price for better and more remunerative buildings. We commend Lord Leverhulme's suggestions to all who are preparing town-planning schemes, and we hope the "industrial unrest" which he is no more afraid of than we are will increase till business "packing" is substituted for mere frontal attacks on slum areas, which not infrequently fill the pockets of crafty

speculators at the cost of the ratepayers and the discomfort of the dwellers of "improved" dwellings thereon!

We earnestly hope every reader, and especially our advertisers, will send at once to the Secretary of the Special Trade Section Committee on Paper Restrictions of the London Chamber of Commerce, 1-3, Oxford Court, Cannon Street, E.C.4, for a copy of the timely pamphlet they are issuing entitled "Paralysing British Trade," in which the results of the stupid Paper Restriction Order, 1917, are indicated. The Order in effect allows the unrestricted use of paper for any and every purpose except that of business, and threatens the existence of every business as well as the whole fabric of the nation's commerce. The utter incapacity of the Paper Commission to control interests so vital to the nation's trade has been painfully manifest. It has restrained trade, it is inequitable in operation, its regulations are in the main unworkable and unintelligible, it tends to the creation of a monopoly, it has utterly failed to achieve its stated objects, and it creates waste. How and why the pamphlet sets out unanswerably. In our own case, and in that of many journals of equal standing, which are vital to the various industries of the country, the restrictions have been harassing in the extreme, while on the other hand publications appealing to the lowest instincts of their readers are evidently able to treat the restriction Orders with contempt, and to obtain as much paper as they desire. The action of the Special Committee of the London Chamber deserves the utmost support of every one in their fight against officialdom, and we trust it will be accorded.

The trustees of the British Museum, at their meeting on Saturday, expressed their gratitude on behalf of the nation whose treasures they hold in trust to the newspapers which so unanimously gave voice to the public disapproval of the proposal which threatened the safety of the museum and its collections. The trustees have no doubt that this influential expression of public opinion contributed largely to secure the reconsideration of the proposal. We hope this recognition will encourage all of us vigilantly to watch the promul-

gation of any further raids by the Government on other buildings of public importance. We should hardly be surprised if it were announced to-morrow that some department, anxious to outdo its competitors in the race for extravagance, has commandeered St. Paul's or Westminster Abbey!

The *American Architect* says that, as a national body, the American Institute of Architects at one time was forceful and representative, but only a minority have turned to the institute as a governing society, the majority having ignored the advantages that it has always been held were to be found in institute membership. It is probably fair to assume there is reason for questioning the representative character of the organisation. If the profession is not properly or fully represented by any existing body, the further question arises as to whether it can be reorganised into a body that will be in every sense national and representative of the entire profession. The passage thus far in seventeen States of laws governing the practice of architecture has undoubtedly done more to rid the profession of incompetents and maintain its dignity than any other one occurrence in recent years. So admirably have the laws in these various States served to add to the higher development of architecture that the passage of similar laws in all the remaining States is most desirable. Premising that ultimately every State will have on its statute books proper laws regulating architectural practice, the present would appear to be an opportune moment to devise a plan for a national organisation. As at present constituted, the American Institute of Architects has become a more or less unwieldy body, and meeting in deliberative session only once a year, and then for not exceeding three or four days, a large portion of which is taken up by purely routine matters, it very often occurs that subjects that deserve consideration fail to receive it, or, if they are taken up, it is only in a perfunctory way. Might not this condition be ameliorated by the formation in each State of a State Society, in which, because of the ease of getting together, meetings could be held more often? One of the most frequent criticisms of the present organisation of the American Institute of

Architects is that it lacks dignity in its inability to punish recalcitrant members except by formal censure, which, to the general class of offenders, carries little if any weight or punishment. This might be corrected by again taking a leaf from the Bar Association and incorporating in the laws establishing the Examining Board a clause making it responsible for the proper conduct of those to whom it issued certificates, with fixed penalties in case of proven offences. If the offence was sufficiently serious an order disbarring the offender from practice could be issued by them. A certificate to practise would be necessary for every architect, and the fact that he was eligible to become a member of his State society would mean that he was amenable to the laws governing his profession, and that by no legal means could he evade his responsibilities or act in a way that would impair his professional dignity. The plan presented has been set down only in a tentative form. It is believed that it is a plan worthy of consideration, and it is urgently asked that there be sent to the *American Architect* letters that will indicate the attitude of architects towards this question.

The longest tangent in the world, 330 miles without the slightest variation from a straight line, occurs on the railway linking Western Australia to the eastern States, which was formally opened on November 12. In the 1,052 miles of line between Port Augusta and Kalgoorlie there is not a single tunnel and very few cuts, while at only a few places on the eastern section is the ruling grade of one in eighty approached. The 330-mile straight occurs in the great limestone region of the Mullabor Plain which the line traverses for over five hundred miles. This is a desolate waste in which there are no hills, no valleys, no rivers, no trees, and no water. When the line was begun in 1912 the country along four-fifths of the route had not a single inhabitant except a few wandering aboriginals, and absolutely no permanent surface water. Indeed water has been the one great difficulty of the line. At a few points reservoirs have proved successful, but for the most part the only supply available has been drawn from wells and bores. This water contains such a high proportion of solid matter and acids that it is very unsuitable for locomotive use, rendering special devices necessary, while in places it is salt and condensers have had to be erected. At one period during construction water for all purposes had to be carried over three hundred miles by train on the western section. The line gives the first communication by land between the two halves of Australia and opens up a quarter of a million square miles now unoccupied. The cost of the line has been about £8,000,000.

Mr. A. H. Claypole, an assistant surveyor under the Bristol City Council, who is an officer in the Road Battalion, has been mentioned for meritorious services by Sir Douglas Haig. L.-Cpl. Simmonds, formerly in the employ of the same corporation, and now of the Gloucester Regiment, has been awarded a Military Medal.

THE LONDON COUNTY COUNCIL'S BETTER HOUSING FOR THE WORKING CLASSES.

By the courtesy of the Housing Committee of the London County Council, and the valued co-operation of Mr. W. E. Riley, F.R.I.B.A., the Superintending Architect to the Council, we have had placed at our disposal a mass of information on this subject, together with a selection of photographs and drawings of the principal housing schemes carried out by the Council, which will appear during the next few weeks, and which should prove most useful to all likely to be concerned in the effort about to be made to cope with the present disastrous shortage of workmen's dwellings throughout the kingdom. For not only has London had her own special difficulties to grapple with, principally centring, perhaps, around the varying, but always considerable, and at times embarrassing, influx of the people of the rest of the realm, and the limitations by Parliament and her endeavours to cope therewith, but in no small degree to the wisdom of the Council and to Mr. Riley's co-operation is due the abandonment of the barrack dwelling, located usually in slums, in favour of the homelike cottage situated in the healthier suburbs amid pleasant surroundings, and rendered easy of access by the Council's system of transit. That for the present some slackening of the work is visible is no fault of those concerned with the direction of the Council's housing schemes, and it is to be hoped that when its activities are resumed they may be as successfully completed as those which under Mr. Riley's control remain as models of design, plan, and construction.

The few left of us who knew London in the forties and fifties of the last century remember well that, while the overcrowding, filth, and insanitary condition of many of its districts were disgraceful, no legislative attempt was made to remedy matters till 1851, when, owing to his persistent endeavours, the late Lord Shaftesbury's two Acts were passed, viz., the Common Lodging Houses Act and the Labouring Classes Lodging Houses Act. The first aimed at the improvement of the common lodging-house, the second at the erection of more and better-ordered lodging-houses. The last was merely an "Adoptive Act," and as such required a special resolution before it could be put in force by a local authority. The responsible authorities in London were the old vestries, which had to appoint commissioners in each parish for carrying the Act into effect. As the vestries were not remarkable for eagerness to do anything, it is not surprising that legislation so far was not fruitful, or the amendment Acts which followed in 1856 and 1867.

In 1866 Mr. W. T. M. Torrens, Mr. Locke, and Mr. Kinnaird introduced a Bill to provide better dwellings for artisans and labourers, which at Mr. Gladstone's suggestion was referred to a Select Committee, and as a result of two years' inquiries, in 1868 the Artizans and Labourers' Dwellings Act, the first of a series known as the Torrens' Acts, was passed, applicable to individual houses, and fixing upon the owner the responsibility for maintaining them in a proper condition, and entrusting the vestries and district boards with the administration of the Act in London. Failing action by the owner or by the local authority, the Secretary of State was empowered to intervene. Provision was made for the demolition of insanitary property and the payment of compensation in connection therewith, but as expenditure was limited in any one

year to the produce of a rate of 2d. in the £, little was attempted. In 1879 the second Act of the Torrens' series was passed, with the expressed object of making provision for compensation and rebuilding under the principal Act. An owner of condemned property could require the authority to purchase it; but the Act stipulated that any property so acquired must be held on trust for the improvement of houses occupied by the labouring class in the district. It further empowered the Secretary of State to take action in case of neglect, and also authorised the now defunct Metropolitan Board of Works to act in default of action by the vestries or district boards.

In 1875, and prior to the passing of the last-mentioned Act, the Artizans and Labourers' Dwellings Improvement Act was passed. This was the first of the series known as Cross' Acts, after Sir Richard Assheton Cross (afterwards Viscount Cross), who was instrumental in securing their adoption. These Acts differed from the Torrens Acts in the fact that, while the former had reference only to separate houses, the latter dealt with whole areas, which were so insanitary as to be fit only for demolition and reconstruction. In London the duties under Cross' Acts were laid upon the Metropolitan Board of Works for London, and upon the City Commission of Sewers for the City. The working of the Act was dilatory and costly, and a few years' experience demonstrated its futility, so in 1879 an Amending Act was passed lessening the defects of the principal Act, modifying its requirements in regard to persons displaced, and giving the confirming authority, at its discretion, permission to allow of their being provided for elsewhere than within the area of the immediate vicinity thereof.

So patent, however, was the insufficiency of all this legislation, and so evident the fact that more must be attempted, that in 1881 a Select Committee of the House of Commons was appointed to further consider the matter. That Committee issued two Reports, and as a result the Artizans' Dwellings Act of 1882 was passed, consolidating and amending Cross' Acts and the second Torrens' Acts. Still, nothing like real progress was made, and in 1884 a Royal Commission was appointed with the late Sir Charles Dilke as chairman, which issued a Report in 1885, exhaustively dealing with the whole question, particularly the terrible evils of overcrowding, severely blaming the authorities concerned for their failure to take advantage of existing laws, and recommending more stringent action. In 1885 the Housing of the Working Classes Act was passed, which amended previous Acts; substituted the Metropolitan Board of Works for the vestries and district boards as the administrative authority, and authorised the sale at a fair market price of the sites of Millbank, Coldbath Fields, and Pentonville Prisons. Part of the site of Millbank has since been devoted to the purpose thus authorised, but the site of Coldbath Fields Prison is now occupied by the Post Office, and Pentonville Prison still stands.

When the London County Council came into existence in 1889, it at once took up the question, and attended by deputation before the Secretary of State to urge the consolidation of the then existing various Acts. The Government then passed the Act of 1890. This Act forms the basis of the London County Council's powers in regard to housing, which we shall briefly indicate presently. The Public Health (London) Act of 1891 embodied many of the recommendations of the Royal Commission, and two further Acts were passed in 1894 and 1900, the

first amending some of the financial provisions of Part II. of the Act of 1890, and the other empowering authorities, other than rural district councils, under Part III. of the Act of 1890, to acquire land for housing purposes outside the area over which they have jurisdiction, and permitting Metropolitan borough councils, if they desired, to become authorities under Part III. of the principal Act.

In 1902 it became evident that several railway companies, by acquiring property without first obtaining Parliamentary powers to enable them to do so, or by acquiring land through several agents, had attempted to evade their obligations to provide accommodation for persons of the labouring class displaced. A Joint Select Committee of the Lords and Commons was appointed to consider this, and reported as to the desirability of making the Standing Orders plainer for the better securing of the re-housing of persons displaced by such schemes. Following their Report the Housing of the Working Classes Act, 1903, was passed, providing that where land was acquired, whether compulsorily or by agreement under the powers of any local Act or Provisional Order, or under any General Act, other than Housing Acts, the requirements set out in the schedule to the Act should apply; that no authority or person acquiring property in London occupied by thirty or more persons of the working class should enter in possession till the Local Government Board had either approved a housing scheme, or decided that none such was necessary; that any scheme must afford accommodation for such number of persons, not exceeding the aggregate number displaced, as the Board might require, and that in calculating such number the Board should be required to take into consideration not only the number of persons occupying the workmen's dwellings acquired, but also the number which had been displaced during the previous five years owing to the acquisition of land by the promoters. Other beneficial enabling powers were included in this Act.

In 1909 the Housing, Town Planning, etc., Bill was passed, mainly by the advocacy of Mr. John Burns, then the President of the Local Government Board. Part I. deals with housing, including facilities for the acquisition of land, and other purposes, and for enforcing the Act. The scope of this Act is probably too familiar to all readers to need further explanation thereof. Particulars of the London County Council's powers under it will be given anon. Subsequent attempts at legislation have not proved fruitful.

STATUTORY POWERS OF THE COUNCIL.

The principal Act dealing with the housing of the working classes is the Act of 1890 as amended in several important particulars by the Acts of 1900, 1903, and 1909 (Part I.). The main provisions of the Act of 1890 are contained in Parts I., II., III., and IV., and for the sake of clearness they are here briefly summarised as amended and amplified by the Acts of 1900 to 1909.

Part I. places upon the Council the duty of preparing and carrying into effect, after sanction by the Local Government Board,* schemes for the re-arrangement and reconstruction of the streets and houses within unhealthy areas, which are of such size and character as to be of general importance to the whole county of London. Proceedings are initiated by an official representation made to the Council by a medical officer of health, either of a metropolitan borough or of the county. The attention of a medical officer may be

drawn to the existence of an unhealthy area by two justices of the peace, or by twelve ratepayers, and it is then his duty to inspect such area and report whether in his opinion the area is insanitary. When a medical officer fails to inspect an area, or reports that it is not unhealthy, an appeal may be made, on certain conditions, to the Board, which is then required to appoint a medical practitioner to inspect the area and to report thereon. If he states that the area is unhealthy, the matter must be dealt with as though an official representation had been made by the medical officer. When it is stated that the Council has failed in its duty as regards an alleged unhealthy area, an appeal may be made to the Local Government Board, and the Board has the power, if it think fit, to require the Council to carry out an improvement scheme within a fixed time.

The Council may make a scheme for the improvement of an insanitary area if in its opinion this is the *most satisfactory* method of dealing with the evils existing in the area. (The Act of 1890 restricted operations under Part I. to cases in which the evils *could not be effectually remedied otherwise* than by a scheme for the clearance and re-arrangement of the area.) The scheme must provide for the demolition of the old houses and the provision in suitable dwellings of accommodation for the persons of the working class displaced. The dwellings, unless there are special reasons to the contrary, must be provided on the area or in its vicinity. In special circumstances the Local Government Board may dispense with the whole or a part of the rehousing obligation. The scheme may also provide for the widening or the closing of existing thoroughfares and for the construction of new roads. It need not be confined to the exact limits of the unhealthy area, but may include lands which the Council considers necessary for the efficiency of the scheme, or for providing accommodation for the people displaced. The Council may itself carry the scheme into effect, or may arrange for its execution by, or in conjunction with, the freeholder of the property. It may also purchase the property and sell or let any part of the area on condition that the purchasers or lessees carry out the scheme, or may engage with any person or society to execute the whole or any part thereof. The express approval of the Local Government Board is required before the Council may itself undertake the rebuilding of the houses.

Part II. of the Act of 1890 provides in two ways for the improvement of working class dwellings. In the first place, the Council and the metropolitan borough councils are empowered either jointly or separately to undertake schemes for the clearance and rearrangement of unhealthy areas which are too small to be of general importance to the whole county. The procedure is similar to that under Part I. of the Act, but it is not essential that rehousing accommodation for the persons displaced should be provided, although the Local Government Board may require the provision of such accommodation as may seem to the Board to be necessary.

Secondly, it is the duty of each metropolitan borough council to cause inspection of its district to be made from time to time in order to ascertain whether any dwelling house is in a state so dangerous or injurious to health as to be unfit for human habitation. Upon the existence of any such insanitary dwelling being reported by the medical officer of health, the borough council may issue an order for the closing of the premises, and after the closing order has been operative for three months the

borough council is required to consider the question of the demolition of the premises with a view to the making of a demolition order. In these cases the property is not purchased by the borough council, and the cost of the necessary works of demolition or repair is borne by the owner, who has a right of appeal to the Board against the borough council's decisions. Metropolitan borough councils may also purchase and demolish obstructive buildings, i.e., buildings which by reason of their position stop ventilation to, or prevent measures being taken to remedy nuisance in respect of, other buildings. The metropolitan borough councils are required to forward to the Council copies of all closing orders, and representations as to houses unfit for habitation and obstructive buildings, and to report to the Council from time to time such particulars as the Council may require respecting any proceedings taken in such matters. The Council has power to act in default of a metropolitan borough council as regards the closing and demolition of any unhealthy or obstructive buildings, and to recover from the borough council the expenditure incurred.

The power of borough councils themselves to make closing and demolition orders was introduced only by the Act of 1909 and is very far-reaching. Before 1909 proceedings had to be taken in a court of summary jurisdiction, and the great difficulty experienced in inducing magistrates to order the closing of dwellings alleged to be insanitary undoubtedly had the effect of lessening the activity of the borough councils in this direction.

The Act of 1890 provided that provisional orders relating to (i.) all Part I. schemes and (ii.) those Part II. schemes in which the whole area was not purchased by agreement or to which any owner objected should not be operative until confirmed by Parliament. The Act of 1903 extended the provisions relating to Part II. schemes to Part I. schemes. By the Act of 1909, provisional orders under Parts I. and II. now take effect without confirmation by Parliament.

Compensation in respect of lands, etc., taken compulsorily under Parts I. or II., is based upon the fair market value, no additional allowance for compulsory purchase being made in respect of the insanitary property. This proviso does not apply in the case of property which is not in itself insanitary, but which is taken for the purpose of making a complete scheme. In fixing the amount of compensation deductions may be made on account of (i.) an enhanced value by reason of the premises being overcrowded or used for illegal purposes, (ii.) the bad state of repair in which the premises are found, and (iii.) the property not being reasonably capable of being made fit for habitation. In cases of compulsory purchase terms of settlement are decided, failing agreement, by an arbitrator appointed by the Local Government Board.

Part III. of the Act of 1890 empowers the Council and the metropolitan borough councils to provide dwellings for the working classes whenever they think fit to do so. Land and buildings, either inside or outside the county, may be purchased for the purpose, either compulsorily or by agreement.

Formerly for the compulsory acquisition of property under Part III. a provisional order, confirmed by Parliament, was necessary. Now, under the Act of 1909, the local authority may submit to the Local Government Board an order for compulsory purchase. The Board may confirm this order, which must incorporate the Lands Clauses Acts, but compensation in disputed cases is determined by a single arbitrator and no additional allowance is

* Before 1905 schemes in London under Parts I. and II. were dealt with by the Home Secretary.

made on account of compulsory purchase. In the case of an objection to an order being confirmed, the Board must hold an inquiry. In London such inquiry is to be held by an impartial person not in the employment of a Government department, and if he reports that the land is unsuitable for the purposes for which it is sought to be acquired, or that it cannot be acquired without undue detriment to the persons interested or the owners of adjoining land, or that it ought to be acquired except subject to conditions specified in his report, then if the Board confirms the order, otherwise than subject to such modifications as are required to give effect to the specified conditions, the order is provisional and requires confirmation by Parliament. Except in the circumstances last mentioned, the confirmation by the order by the Board is final, and no parliamentary confirmation is required. In assessing compensation, an arbitrator must act on his own knowledge and experience as far as practicable, and must hear any authorities or parties authorised to appear and must hear witnesses, but, except as directed by the Board, he may not hear counsel or expert witnesses.

The Council may, under Part III. of the Act—

(a) Lease land for the erection thereon of workmen's dwellings.

(b) Itself undertake the erection of dwellings or the improvement or reconstruction of existing dwellings.

(c) Fit up, furnish and maintain lodging-houses for the working classes.

(d) Make any necessary by-laws and regulations for the management and use of the lodging-houses.

(e) Sell dwellings or lodging-houses established for seven years or upwards under Part III. of the Act whenever such dwellings or lodging-houses are deemed by the Council and the Local Government Board to be unnecessary or too expensive to keep up.

Upon complaint being made to the Board that a local authority has failed to exercise its powers under Part III., the Board may, after holding a public inquiry, declare the authority to be in default, and may order such things to be done as may in the opinion of the Board be necessary for the purpose of remedying the default. Before deciding that a local authority has failed to exercise its powers, the Board must consider the necessity for further working-class accommodation in the district, the probability that the required accommodation will not be otherwise provided, and whether it is prudent from a financial point of view for the local authority to undertake the erection of the dwellings.

Part IV. of the Act of 1890 contains several supplemental provisions of which the chief are—

(a) Any person voting as a member of a local authority on any question under Part I. or Part II. of the Act if it relates to any property in which he is beneficially interested is liable to a penalty of £50.

(b) Where a building is purchased under Part I. or Part II. of the Act and is not closed by a closing order, a reasonable allowance to cover expenses in removing may be made to the tenant when the tenancy is for less than a year.

The Act of 1903, in addition to amending the principal Act in certain particulars, deals with the rehousing obligations of promoters of private Bills, and provides that where dwellings occupied by thirty or more persons of the working classes are acquired under statutory powers other than the Housing Acts (*e.g.*, in connection with the carrying out of

public improvements, the construction of railways, etc.) the dwellings shall not be entered on until the Local Government Board has either approved a housing scheme or decided that such a scheme is not necessary. In fixing the number of persons to be rehoused, consideration must be given to the number of persons of the working classes displaced within the previous five years in view of the acquisition of the property for the purposes of the scheme.

The Housing, Town Planning, etc., Act, 1909, in addition to amending preceding Acts in certain particulars, provides that in the case of a house in the county of London let at a rent not exceeding £40 a year, the house at the commencement of the tenancy shall be in all respects reasonably fit for human habitation, and further that the premises shall be kept in such habitable condition during the tenancy. If these requirements are not complied with, the local authority may serve notice upon the landlord to carry out the necessary works, or, if the notice is not complied with, may itself do the work and charge the landlord with the cost. The landlord may appeal to the Board against any such notice.

Any underground room shall, unless it complies with certain conditions as to height, ventilation, lighting, etc., be deemed to be unfit for use as a sleeping place.

The Act also prohibits the erection of back-to-back houses. This provision does not apply (i.) to tenements placed back to back if the medical officer of health of the district is satisfied with the arrangements for ventilation, or (ii.) to houses abutting on streets of which the plans were approved before May 1, 1909, in any district where before the passing of the Act the erection of back-to-back houses was allowed.

The Local Government Board is empowered to compel a local authority to revoke any by-laws which in the opinion of the Board unreasonably impede the erection of working-class dwellings. Provision is made for the suspension, so far as necessary for the proper carrying out of a town-planning scheme, of any statutory enactments, by-laws, regulations or other provisions which are in operation in the area included in the scheme. The regulations made by the Board require that in such cases a full explanation must be given to the Board of the reasons which are considered to justify the suspension of statutory enactments, by-laws, etc.

The Council is empowered to promote the formation or extension of societies on a co-operative basis which have for their object the erection or improvement of dwellings for the working classes. The Council may also, with the consent of, and subject to the regulations made by, the Board, assist any such society by grants or by guaranteeing advances made to the society.

Next week we shall briefly indicate what the Council has done, and commence our illustrations of the buildings it has erected.

(To be continued.)

We regret to learn that Lieut. H. Howells, temporary engineering assistant in the borough surveyor's department, Swansea, has been killed in action.

The Master of the Glaziers' Company, Mr. G. Paget Walford, and the clerk, Mr. P. W. B. Tippetts, on Monday paid a visit to the oldest pensioner and the senior member, Mr. D. Leslie, to offer congratulations on his attaining the age of 101. On behalf of the Company the Master made a gift of 101 new shillings to the veteran.

Our Illustrations.

A LIBRARY (LATE SEVENTEENTH CENTURY) CARRIED OUT IN OAK.

One of the difficulties which arise when planning a library in which pilasters are used as part of the decorative scheme is how to conveniently utilise the spaces behind the pilasters. To make the shelves the fullest internal width of the bookcase sections means the creation of awkward pockets where some of the books are out of sight, and can only be moved after the adjoining spaces have been cleared. In the library here illustrated the problem has been solved by turning the pilaster spaces into cupboards for the reception of maps and charts. The woodwork throughout is of oak, with the moulding enrichments gilded, and the type of decoration adopted corresponds to English work of the late Seventeenth Century. The treatment of the chimney-piece wall is frankly reminiscent of the Chatsworth interiors, and recalls some of the best efforts of the Wren and Gibbons combination. The opposite end of the room (not shown in the illustration) is arranged in a similar manner, with the exception that extra bookshelves take the place of the chimney-piece. The room was designed by Mr. H. E. Mansfield, and Messrs. Restall, Brown, and Clennell, Ltd., are the contractors who were responsible for its execution.

PROPOSED SCHOOL CHAPEL, BOGNOR, SUSSEX.

This interior perspective was exhibited at the last Royal Academy. It shows the new school chapel at Bognor designed by Mr. Percy B. Freeman, architect, of Gray's Inn Square, W.C. The view is taken looking towards the altar. The stalls are to be arranged in the traditional manner, and an ambulatory round the building is provided, making a handsome as well as very convenient feature. The cross arches can be seen over the top line of the side screens between the piers of the main and lofty arcade, all in fine stonework, broadly treated.

THE ENTRANCE FRONT OF A COUNTRY HOUSE.

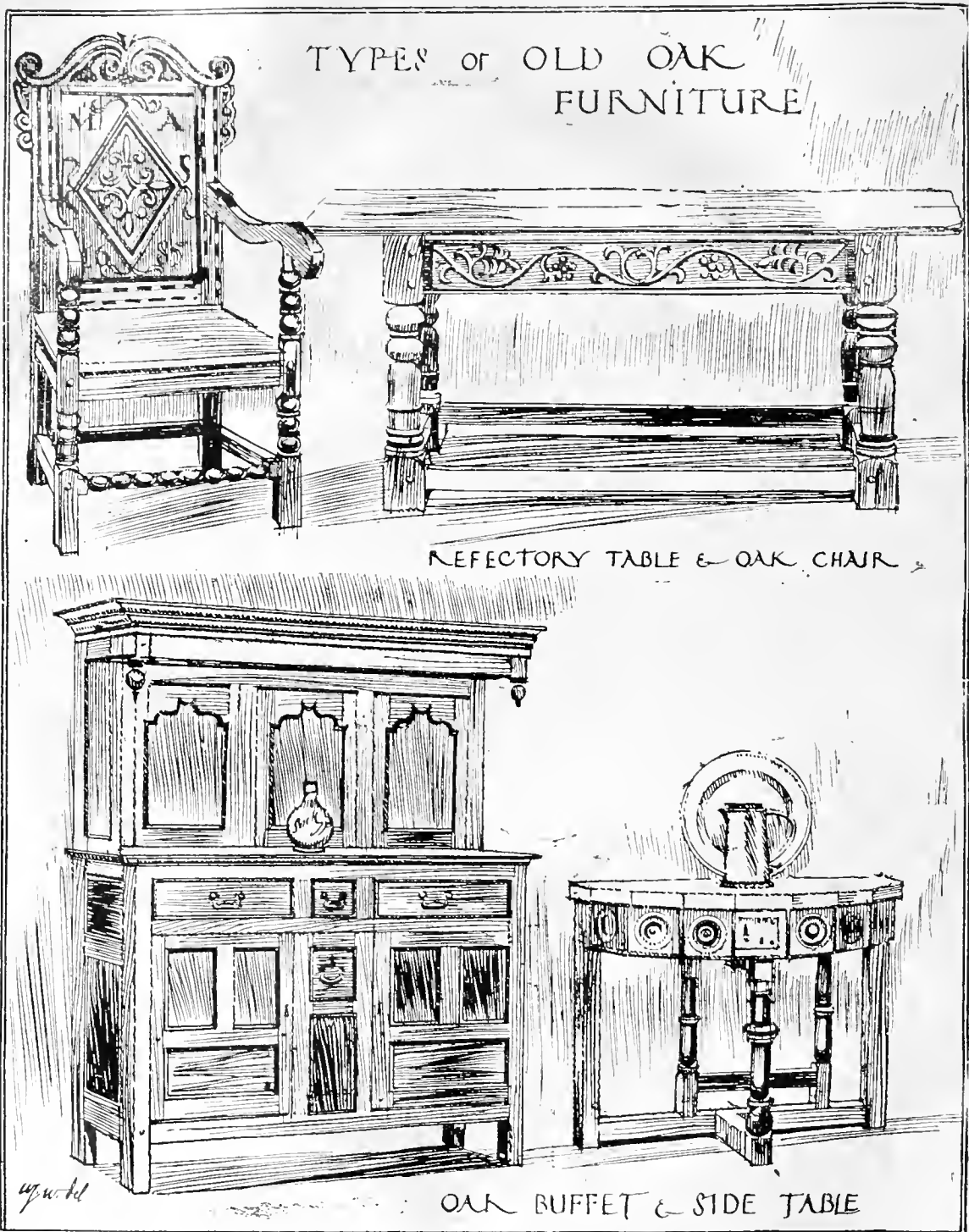
Having been approached by a client whose inclinations lie entirely towards the symmetrical in architecture, and feeling that some attempt must be made to stem the tide of asymmetry and the planning of houses whose comfort and convenience have only been caused by means of afterthoughts in the shape of larders, outhouses, and so on, the architects have attempted to design this house in order that it shall meet all the client's requirements in both respects. Not only is the house symmetrically proportioned within in regard to its kitchen offices, but great thought has been given to the production of a house which shall be entirely comfortable and convenient without the addition of one single excrescence. The treatment of the garden, too, depends upon its concentration and the exceedingly beautiful natural features, which preclude all thoughts and possibilities of more than an enclosed garden on one side of the house. This drawing was shown at the Royal Academy this year.

PHILIP TILDEN.

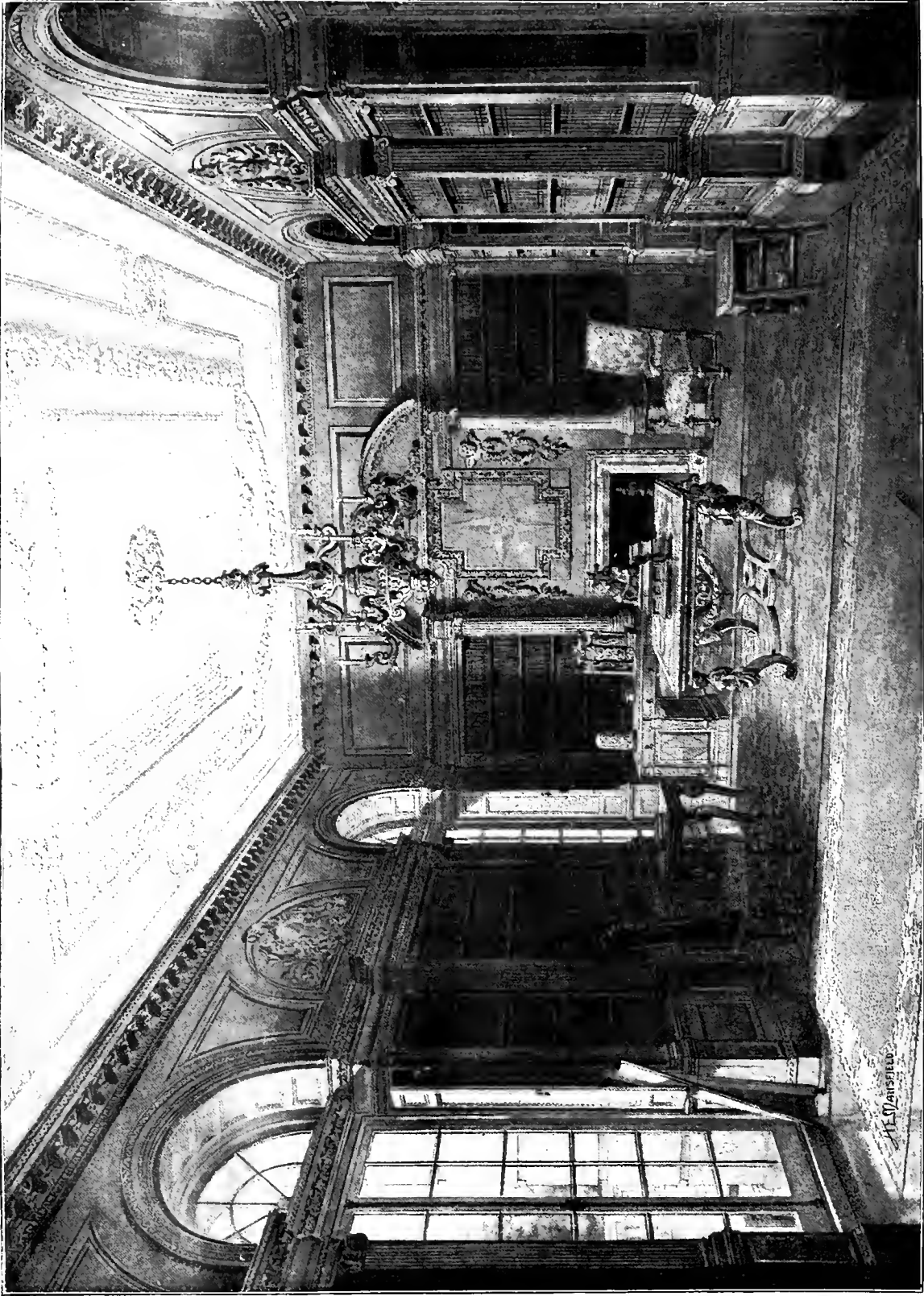
CHARLES VINER MEMORIAL ORGAN-CASE, ST. JOHN'S CHURCH, RED LION SQUARE, W.C.

Practically all that remains to complete the interior fittings of Mr. J. L. Pearson's stately church in Red Lion Square is a case for the organ, a fine instrument erected by Messrs. Lewis. Projecting into the chancel from the triforium level, the "towers" extend well into the vault of the groynery. A case for such a large instrument has therefore been much needed, and it is now proposed to erect one in memory of the late Charles J. Viner, who was organist of this church and choirmaster for upwards of forty years. The design is by Mr. Cecil G. Hare, the architect. The work will be carried out by Mr. Robinson, of Bloomsbury, who also fashioned the triptych of the high altar.

(Continued on page 57.)

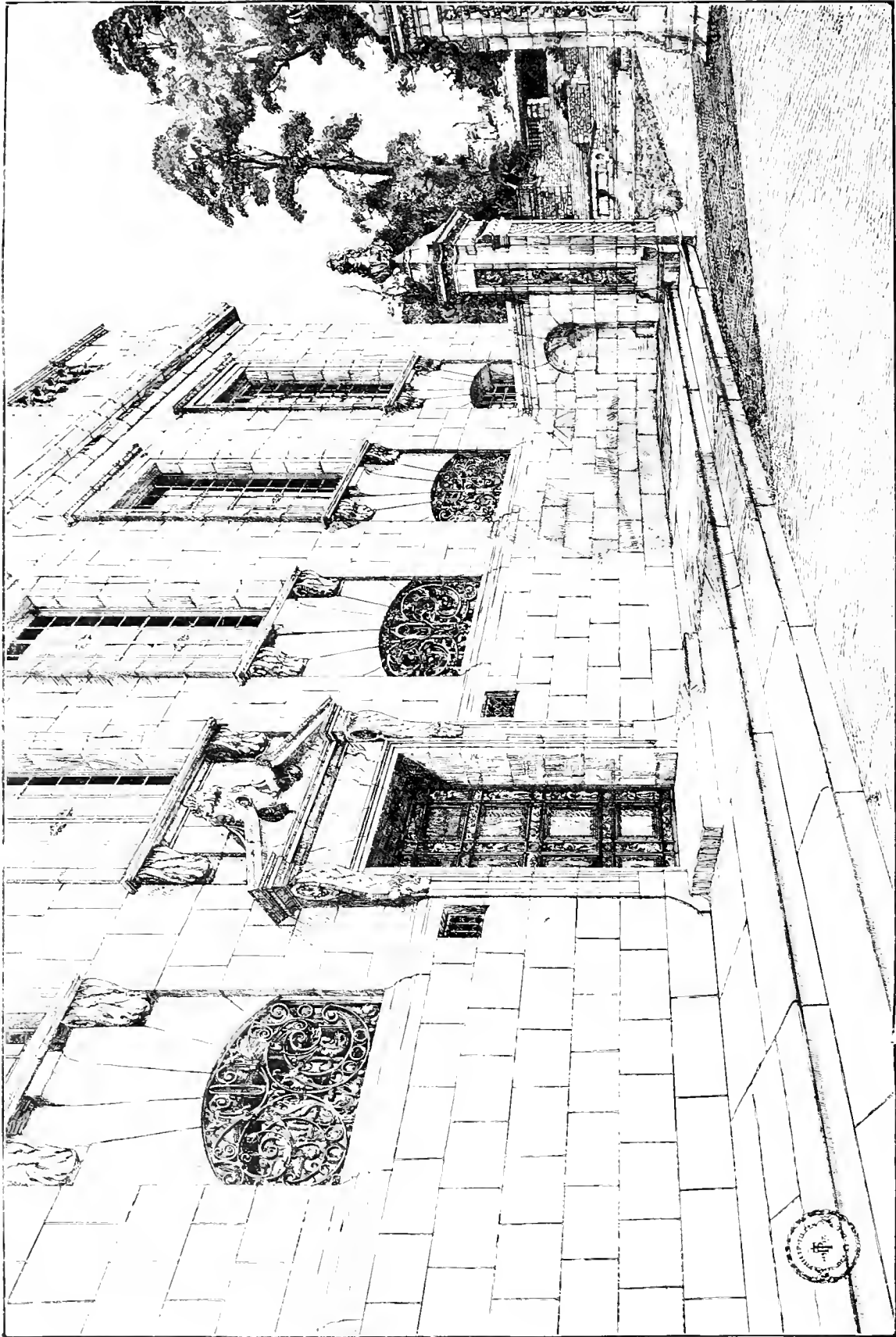




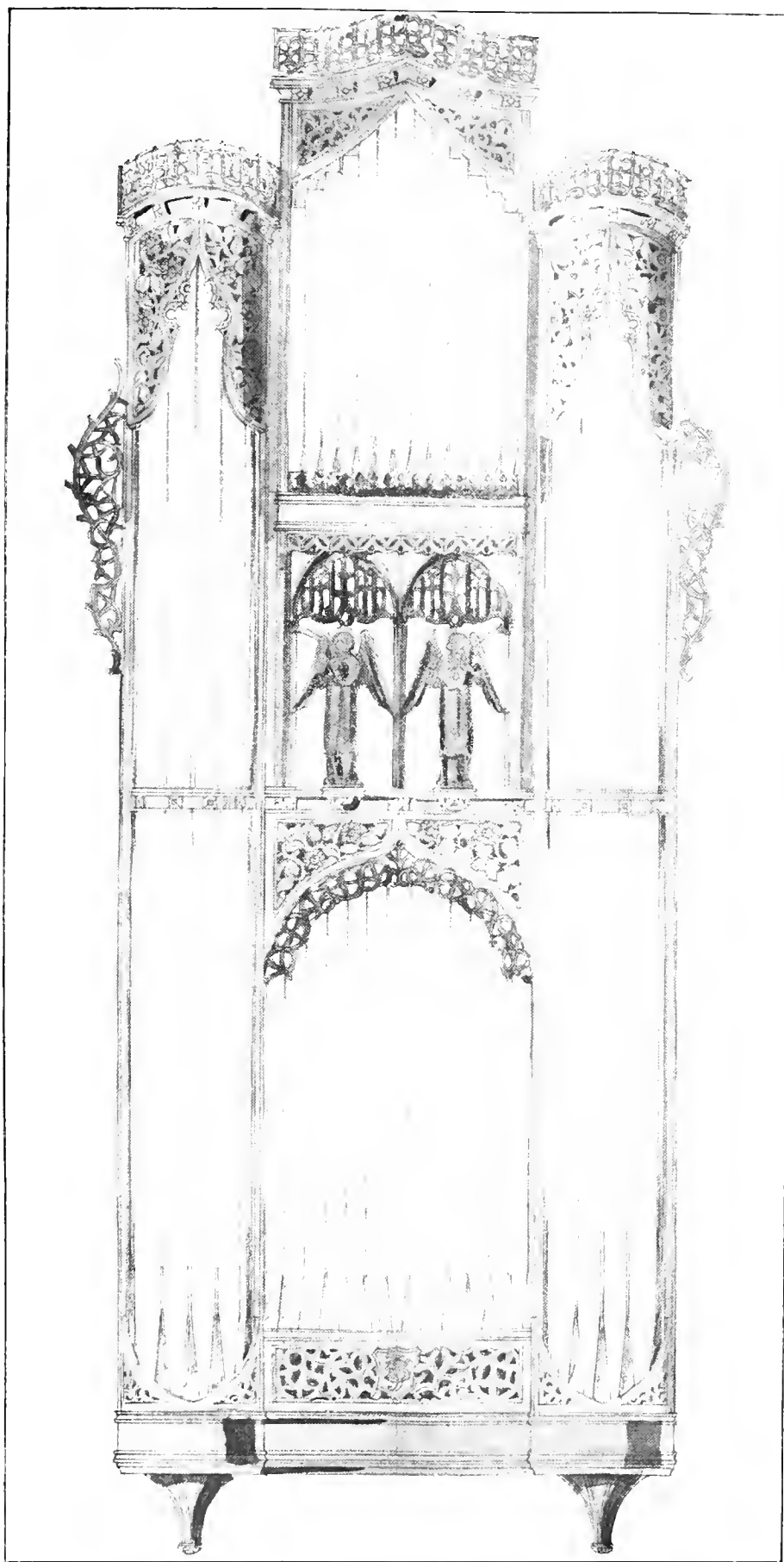


A LIBRARY EXECUTED IN OAK (LATE SEVENTEENTH CENTURY).
Carried out by Messrs. RESTALL, BROWN and CLENNELL, Ltd. Designed by Mr. H. E. MANSFIELD.





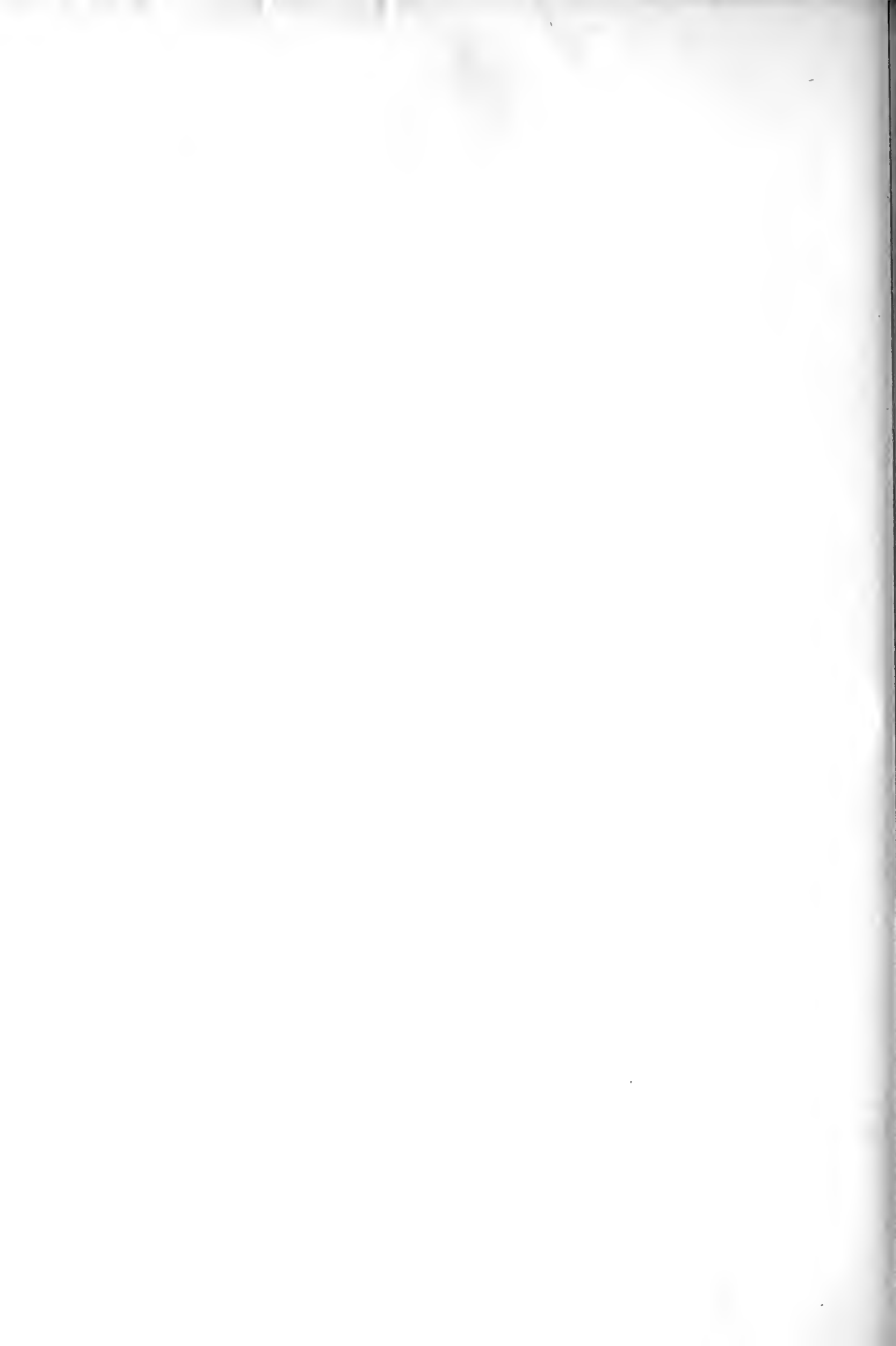
THE ENTRANCE FRONT OF A COUNTRY HOUSE.—Mr. PHILIP TILDEN, Architect.

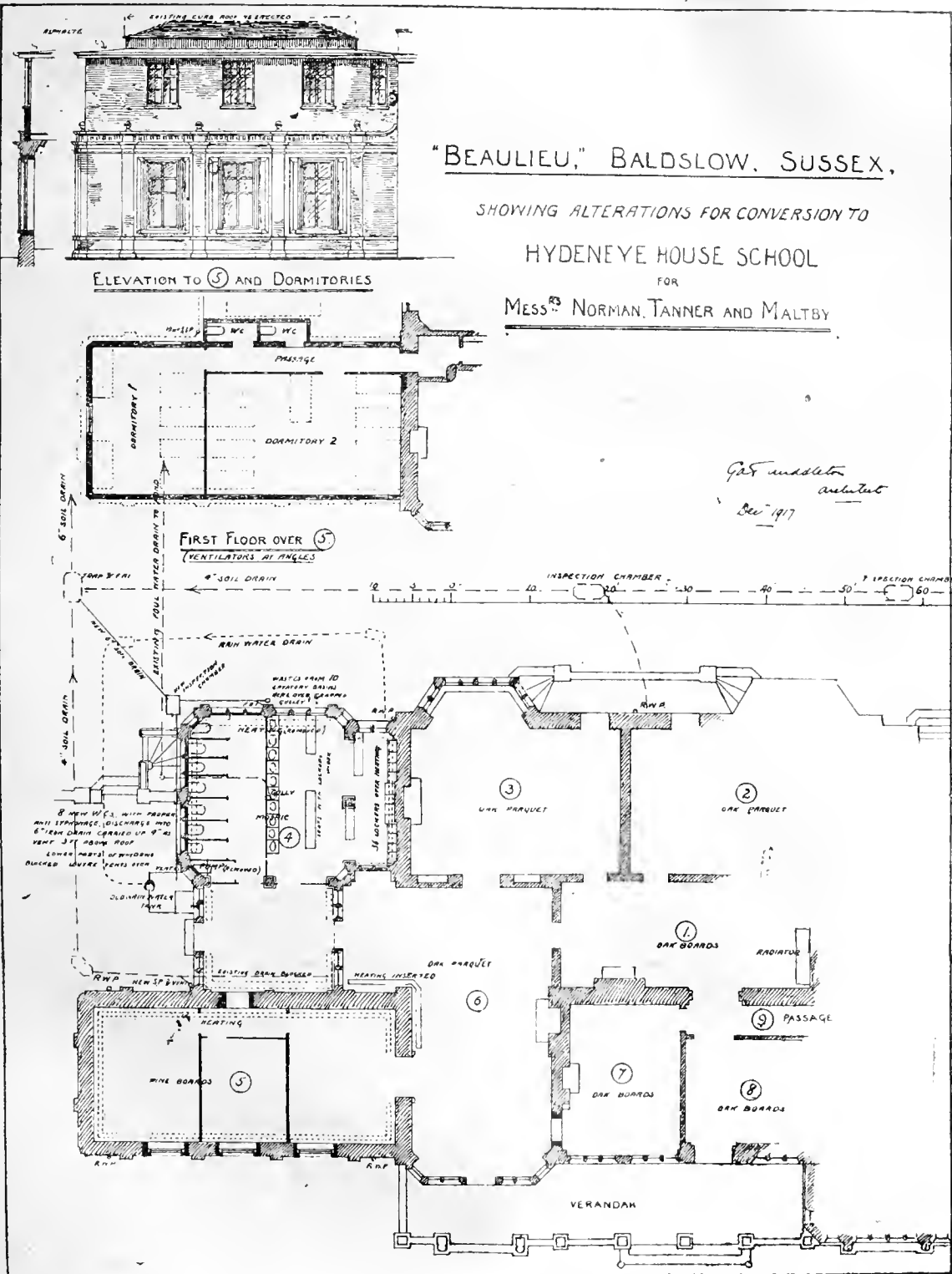


CHARLES VINER MEMORIAL ORGAN, ST. JOHN'S CHURCH, RED LION SQUARE, HOLBORN, W.C.—MR. CECIL G. HARE, Architect.



PROPOSED SCHOOL CHAPEL, BOGNOR, SUSSEX.—MR. PERCY B. FREEMAN, Architect.







OUR ILLUSTRATIONS.

(Continued from page 44.)

The cost is estimated at £152, exclusive of the decorations, which it is hoped may be applied at a future date. The Rev. Preby. Cowan, vicar at St. John's Clergy House, is asking for help to complete the undertaking, and Charles Viner was well known to several architects. We gave an exterior view of this fine church on January 3, 1879, showing Mr. Pearson's design for the spire, which has not yet been erected.

TYPES OF OLD OAK FURNITURE.

The exceptionally high prices obtained during the past year seem to be increasing, and it is now difficult to obtain old furniture. So many who own such things, being well provided with money, are not selling their household goods to the country shops, particularly in the Midlands, as in normal times. The ordinary dealers consequently have nothing in this way to offer, and the figures obtained at auctions have gone up to record standards. The four pieces shown on the accompanying sheet recently changed hands in this way, but they are all self-explanatory and typical of their kind.

"BEAULIEU," BALDSLOW, SUSSEX: ALTERATIONS AND ADDITION.

Owing to the present restrictions imposed upon building work, it has been necessary to confine the alterations needed for the conversion of this fine country house into a boarding-school to such as are of absolute and immediate necessity only, and to avoid the remotest extravagance. Many rooms will consequently be merely changed as to their uses, even the fine oak dadoes, carved chimney-pieces, and handsome staircase (1) being left untouched. Room (2), formerly the dining-room, will become the school dining hall, the small drawing room (3) being used as the private sitting room of one of the principals, while the large drawing room (6) will be transformed into the main school room. Room (5), which opens out of it, is now a top-lighted picture gallery, but is to be partitioned so as to make three class-rooms lighted by new windows cut in the south wall; while two new dormitories are to be built up over it, and the existing roof, to a large extent, re-erected. The present palm house (4) is to be ceiled below the top light and separated by a thin partition into a changing room, with clothes lockers and lavatory basins and a range of w.c.'s with lifting seats, the experience of Messrs. Norman, Tanner, and Maltby—whose existing school at Willington is to be transferred to "Beaulieu"—being that these are more suitable for little boys than urinals. The architect is Mr. G. A. T. Middleton.



The Metropolitan Boroughs Standing Joint Committee has asked the London borough councils to consider a draft scheme for the constitution of an industrial council for municipal workers.

Miss Doris Boulton and Messrs. Reginald H. Green, Leslie Moffat Ward, George Marples, George Soper, and W. Walcott, R.B.A., have been elected Associates of the Royal Society of Painter-Etchers and Engravers.

An additional industry that will give employment to about 2,500 men has been secured for the city of Toronto. Arrangements have been completed for leasing a large site on the water front within the harbour, which contains about 15½ acres, and upon which will be constructed buildings, slips, and dry docks.

The scheme which the Sub-Committee of the Ministry of Reconstruction recommend proposes to afforest 1,770,000 acres. Taking eighty years as the average rotation, two-thirds of the whole should be planted in the first forty years. From the fifteenth year onwards the scheme would begin to provide pit-wood from the quicker-growing species on the better kinds of mountain land. By the fortieth year the plantations made in the first ten years alone would contain enough timber to keep our pits supplied in emergency for two years at the present rate of consumption. The total cost for the first forty years may be £15,000,000. After that time the scheme should be self-supporting. The whole sum involved is, therefore, less than half the direct loss incurred during the years 1915 and 1916 through dependence on imported timber.

ENGINEERING AND CONSTRUCTION FEATURES OF CANTONMENTS.*

BY MAJOR RICHARD C. MARSHALL, JR., QUARTERMASTER CORPS, U.S.A., ASSISTANT TO OFFICER-IN-CHARGE OF CANTONMENT CONSTRUCTION.

On April 6, 1917, when the Congress of the United States was forced to declare that a state of war existed with the Imperial German Government, it found this country both peace loving and peace-pursuing. It would not consent to think of war, or the preparations for war in the true sense, or in the sense that the few military men of the nation had been trying to impress upon the country. Most potential of all the world in possibilities, this country was least powerful in its military forces, either for offence or defence. The war in Europe had been raging for more than three years, and we had all hoped to keep out of it. In spite of this, there were very few preparations being made here. The battle lines in Europe extended to hundreds of miles, the European armies to millions of men, guns of all ranges to thousands, ammunition to thousands of tons; yet our preparation was only that induced through the necessities of those countries which were at war.

We have become accustomed to large figures, and in the building of the cantonments everything ran into tremendously high figures. The Quartermaster-General's office has always been charged with the construction work for the army. The division that had that work in immediate charge was the Construction and Repair Division of the Quartermaster-General's office, and at the outbreak of the war it was composed of three officers, a force of twenty clerks and stenographers, and twenty engineers, architects, and draftsmen. This force kept the regular army posts fully repaired and did what construction work was necessary from time to time to house the army. It now faced the huge task of building the cantonments. It was not known what the task would be, as no plans could be formulated until it was known whether the conscription law would become a fact or not.

On May 18 last Congress passed the conscription law, and it was not until that date that plans could really be formulated in any definite shape. In the meantime the Council of National Defence, through the Munitions Board, had formed a sub-committee which was known as the Sub-Committee on Emergency Engineering and Construction. This committee, in consultation with the Quartermaster-General's office, looked toward laying out the plans for this purpose. When the amounts of the needed supplies were counted off, it did not seem possible to mobilise them to put them into the various buildings. At that time it was a mooted question whether there would be sixteen cantonments with a capacity of 650,000 men or thirty-two cantonments with a capacity of 1,200,000 men. If the latter, the supplies necessary would have been about double what would be required by the former. At that time no sites had been selected on which to locate any of the buildings, so that the problem was made a most difficult one.

After the conscription law had become a fact, it was determined by the General Staff that the cantonments should be constructed in sixteen different places, located as far as possible within the draft areas, and that sixteen camps would be constructed for the National Guard, located in the south and west, where climatic conditions would permit training all the year round, and where camping conditions would be better than in the north. The same authority also determined that the several department commanders should select the sites for the cantonments, and that the Cantonment Division should be created for the purpose of constructing the same; this Cantonment Division to be an extension of the division of the Quartermaster-General's office, which had before been known as the Construction and Repair Division.

The engineering, the purchasing, the mobilising of materials, and the securing of

60,000 labourers were problems that seemed insurmountable, but with the aid of the Sub-committee on Emergency Engineering Construction the men required for the various purposes were obtained from the localities near the cantonments. It was the original conception that 1,200 acres of ground would be needed for the various buildings. To secure 1,200 acres of ground, put them into building shape, and do the preliminary engineering seemed impossible in the allotted time.

The Cantonment Division was organised in the early part of June, and it was expected that by September 1 a sufficient number of buildings would be ready to house the first increment of the draft. Less than three months were given for the selection of sites, the development of the water supply, the determination of the sewage disposal, the construction of railroad facilities, obtaining the necessary electrical power and all other public service utilities that go to make up a city. Many of the sites were at some distance from the nearest railroad, and in some instances six miles of railroad had to be built to reach the site selected. Where this was the case the transportation facilities were such that the getting of the first material on the ground had to be done entirely by trucks over country roads with the usual accompanying difficulties.

The several Boards appointed to select the sites, having made local arrangements for the rental of the same, telegraphed the selections to Washington, giving the approximate locations. Engineering parties were immediately sent out to make topographical surveys, and also engineers to examine the water supply and to determine the sewage disposal. The water supply was the prime consideration of the Boards selecting the sites, and in every case an engineer selected for the purpose advised in that one particular.

In considering the buildings to be constructed for these cantonments, the experience of the army on the Mexican border served to guide. There it was found that the life of a tent was from three to four months, and that the cost of housing men in tents was approximately \$12.50 per man per tent; that the replacement of a minimum of three tents a year and the cost of housing per year per man was \$36.50, without any reference to the cost of water supply and other necessities in the make-up of a camp. This consideration alone was sufficient to have abandoned the idea of tentage; but it was a fact that it was impossible to obtain the tentage. Indeed, it had barely been possible to secure the tentage for the National Guard troops now in camp. The National Army is supplied now with little or no tentage. There are some few tents which were there originally with the guard during the construction period. During the construction period of each and every cantonment a guard of one battalion was supplied, for the purpose of protecting the Government property and for fire protection. In addition to this guard, the Fire Underwriters detailed an engineer to each cantonment, so that fire protection during the period of construction was carried on under the best auspices possible, and during that period of construction there have been some 235 fires, with a total loss of only about \$2,000 in all for the sixteen cantonments.

Lumber was the principal item in construction. The amount of lumber used was approximately 39,000 carloads, converted into board feet, making approximately 40,000,000 board feet per cantonment, or 640,000,000 board feet for all the cantonments. This is exclusive of the National Guard camps. If the lumber used was all in 2-by-4-foot pieces, placed end to end, these pieces would reach eight times round the earth. If cut into one-inch planks, laid flat, it would cover an area of 27½ square miles.

Obtaining the lumber was a difficult problem, as no local lumber markets could be used to advantage, the enormous demand upon each being too great. The Lumber Sub-committee of the Munitions Board materially aided the Cantonment Division by standardising the lumber sizes with the plans so that the sizes used would be in standard lengths as marketed and that the wastage would be held

* Address presented at joint meeting of the Engineers' Club of Philadelphia and the Worcester Tech. Club, Witherspoon Hall, November 29, 1917.

to a minimum. The lumber in carloads was just about half the total amount of materials, the latter being some 80,000 carloads. Moving 80,000 cars in three months to the different points to arrive at the proper time taxed the railroad facilities to the utmost.

In making the lay-out for the cantonments city planners were in consultation with architects and engineers, and the final lay-out was an adaptation of the regimental units to city blocks, each cantonment being a city of from 40,000 to 45,000 population.

The typical lay-out was applied to each particular site, and, while it was impracticable at any place absolutely to follow the typical plan, in many places it was closely approximated. In other places the type was not followed to any extent, except to preserve the entity of the block. The buildings were designed for the units of the army as they formerly existed, being 150 men per company. The barrack building was designed for 150 men, but when about half finished, upon the recommendation of General Pershing, the whole organisation of the army was changed, and the unit of the company became 250 men. The final plan adopted was a building to house 66 men, using a mess-hall and lavatory in addition, so that four of these barrack buildings would house one standard unit, and also could be adapted to other units, larger and smaller.

The question of heating at the cantonments presented a very serious problem. Steam heating was admittedly the best, so far as fire risk was concerned, as it would allow the distribution of heat to the best advantage; but steam heating could not be had. As it was impossible to obtain necessary piping, radiation, and boiler capacity for so many cantonments, the steam heating was installed at only four of them and is only now being completed. The barracks are heated by room heaters, which are hot-air furnaces set up in the middle of the room. For heating purposes there have been used, all told, some 40,000 stoves, about 60,000 horsepower in boiler capacity.

Much has been said about the form of contract used in connection with letting the work at these cantonments. The cost = plus form of contract was adopted by the War Department after considerable deliberation. The popular idea is that on this contract all contractors receive 10 per cent. above the cost of the work. As a matter of fact, most of them are receiving 3 per cent. approximately. The cost = plus is scaled, and the maximum amount any contractor can receive is \$250,000. This \$250,000 is to cover all overhead expenses. The cost of the cantonments has been approximately \$120,000,000.

Similarly, in drawing up contracts for engineering fees, there were three forms used for engineering services. One—and the one least used—was $\frac{3}{4}$ of 1 per cent. for all engineering services. This contemplated an engineering concern with a large and well-developed organisation that could care for every form of engineering to be met. Only in places where we had very difficult problems was this form of contract used. The other two forms were flat amount for specific services, and these are the forms of contracts generally used throughout in the work. The cost of material has been kept to the lowest the market has permitted at this time.

(Slides were exhibited showing typical plans, sites in various stages of transformation, typical buildings for men and services, sewer construction and water supply, etc., and two motion-picture films showing the construction of the various cantonments and other details.)

Mr. William Green, a well-known Stourbridge builder, painter and decorator, died on January 7, at the age of 81 years. He had been ill only a few days.

The Board of Trade are again organising a British Industries Fair, which will be held in London from February 25 to March 9, 1918, in a large building near the Tower Bridge, placed at the disposal of the Board of Trade by the courtesy of the Port of London Authority. The trades represented will include china and glass, fancy goods, toys, paper, printing and stationery. Further particulars may be obtained from the Director of the British Industries Fair, 10, Basinghall Street, London, E.C.2.

STONE IN ENGINEERING WORK.

The builders of Imperial Rome expended a great deal of care and artistic effort on their engineering work, with the result that there have survived even to this day aqueducts, bridges, and the like, of decided architectural pretensions. These are to be found in what were then remote colonies of Rome, in Africa, France, and Spain. The mediæval builders showed a like spirit, although they generally worked on a smaller scale. In modern times, however, the prevailing idea seemed to be that there was no need to make any attempt to beautify what was intended only for a work of utility. Strength and durability were the only factors worthy of consideration. The skill and inspiration of the architect were not called upon to supplement the engineering design, which was based solely upon computations of stress and strain. There is nothing that better illustrates the growth of popular taste and æsthetic appreciation than the greater care that is now bestowed upon the designing of our public works. But we are no longer content with rude masonry and bare walls, and we even call in the aid of landscape gardening to bring tremendous engineering products into harmony with their surroundings.

The introduction of concrete construction did not aid in bringing about an architectural improvement in engineering work, but, on the contrary, hindered the movement in many ways. Stone masonry, however rude and unadorned, had a certain dignity that could never be found in a wall of poured concrete. The railroads are still great offenders in the use of this material, but leading engineers are demonstrating that stone facing is the proper treatment for heavy concrete construction. Many of the great dams erected in the United States irrigation and reclamation schemes are faced with stone, and satisfy the most exacting taste. The Roosevelt dam in South-Western Wyoming is an instance in point. This is a rubble masonry arch, with faces of ashlar. It rises 280 feet from bed-rock to parapet walls. It is 235 feet long on the bottom and 1,080 feet long on top.

It is probable that greater care was given to the architectural features, including landscape gardening, of the Catskill water supply system than to those of any other great engineering work ever undertaken. The recent completion and dedication of this project has served to emphasise this fact. The Kensico dam would be notable for its size alone, as it contains not less than 1,000,000 cubic yards of masonry, while the famous Assuan dam, on the Nile, has only 704,000 cubic yards. But its prominent location, at the end of the Bronx Parkway from New York, inspired the commission to make it more than a mere retaining wall.

This dam, facing south, presents a curved surface as high above ground as a ten-story building and nearly as long as from Thirty-fourth Street to Forty-second Street, says the *New York Post*. Moreover, it has the novel characteristic (never before considered in the architectural design of such a structure) of being built in sections, expansion joints cutting the face of the whole mass vertically in widths of about eighty feet.

In studying existing dams the architects found little precedent to aid them. Some were crowned by a sort of house cornice; one, in France, had an interesting surface texture given it by the projection of "headers," square stones forming a pattern in the wall. None had anything like a visible base (their ends disappearing irregularly into the back-fill of the flanking hills), and below the dam an arid flat, occasionally decorated by an octopus of roads centring on an inadequate fountain, offered a depressing contrast to the beauty of the reservoir above the dam. Moreover, these great walls, composed often of huge stones, had no "scale," gave no just impression of their size, because their surfaces were of uniform texture and lacked contrast.

The requirements gradually formulated themselves in the architects' minds:—

1. A dam should stand upon an architectural base.
2. It should not have a "cornice."
3. Its surface should be divided into the

panels indicated by the vertical expansion joints.

4. Its surface should follow a single curve, and not a series of varying curves with uncertain angles between them.

5. Small structures or shelters, with parapets or balustrades indicating the height of the human figure, should give "scale," or measure, to the dam.

6. A large area of water, pools or fountains, should mitigate the foreground of the dam; and

7. The approach from which the dam is first seen should be as long as the conditions allow.

Ten years ago the architects prepared the first sketches for the general design, indicating the wall textures, base-terrace, shelters, foreground, and approaches. Repeated plaster models at small scale gave valuable help, but it was not until a full-size model of granite, with a face some thirty feet square, was built on the east hill at the site, and could be studied from half a mile away, that it was possible to cut the first stone for the dam itself.

Granite of extraordinary beauty and variety was found within a mile, and two million cubic yards were quarried, a large portion being used in the cyclopean masonry and concrete which constitute the mass of the dam. In the cutting-sheds of this quarry the frieze of shields and garlands was "carved" with ordinary rock drills and surfacing-machines, presenting, close to, an aspect of savage brutality, which at half a mile is refined to the character of the general wall surface.

Across the foot of the dam, parallel with the terrace forming its base, a pool was built, in which nine jets of water, one opposite each panel of the dam, spout their vertical columns forty feet into the air. Two narrow fountain-basins flank this pool, lying perpendicular to the dam face, and the overflow of these three basins flows into the Bronx River and down the Parkway, to compensate for the loss of the water from the Kensico watershed now caught by the dam.

PROFESSIONAL AND TRADE SOCIETIES.

AUCTIONEERS' AND ESTATE AGENTS' INSTITUTE.

—Mr. W. H. Wells presided at the annual meeting of the Auctioneers' and Estate Agents' Institute held last Friday at 34, Russell Square, and among those also present were Sir James Boyton, M.P., Mr. W. H. Bradwell, Mr. H. D. Buckland, Mr. J. B. Garland, Mr. Townsend Green, Mr. J. G. Head, Mr. J. H. Hunter, Mr. H. F. Jofts, Mr. J. S. Motion, and Mr. J. S. Richardson. In the course of his presidential address, Mr. Wells remarked that the present apparent prosperity, due to the outpouring of capital as income for labour and material in furtherance of the war, was likely to be followed by a period of depression. The land and all that was produced from it was the very foundation of our national prosperity. Those who were concerned in estate management, therefore, had a heavy responsibility, and they should not be afraid of changes in their hitherto accepted methods and practice. The University of London had decided to create a degree of Bachelor of Science in Estate Management for external students, considering that the encouragement of higher technical studies would be one of the most direct ways in which it could bear a fitting share in dealing with the great problems of reconstruction. But there was no school or college which provided a suitable education for those wishing to become efficient estate agents and auctioneers. To found and endow such a college would require a substantial sum, but it should not be beyond their power to obtain the amount necessary to make a start. The fees of the paying students should be sufficient to provide for their tuition, and once the college was established they might reasonably look for help in the way of scholarships from public authorities and others. He was prepared to start a fund for the formation of the college with a donation of £500. Mr. J. B. Jenkins (Belfast)—How much do you reckon it would cost to start the college? Mr. Wells.—About £50,000, I

should say. Mr. Jenkins.—Then I will see whether I can get £1,000 in Belfast. We always "down with the dust," you know, for any useful object. The President, in the concluding part of his address, referred to urban housing, the demolition of slum areas, and the erection of cottages for the rural population as matters in which auctioneers and estate agents were specially interested. As regards agriculture, a definite national policy was required and the foundation of a Council or Federation representing all the interests concerned, such as the Earl of Selborne had suggested, was deserving of the hearty support of the Institute. At the instance of Mr. George Head (London), seconded by Mr. A. W. Shelton (Nottingham) and supported by Sir James Boyton, M.P., a hearty vote of thanks was passed to the President.

NATIONAL FEDERATION OF BUILDING TRADE EMPLOYERS.—The annual meeting of members of the Midland Centre of the National Federation of Building Trades Employers of Great Britain and Ireland was held at Birmingham last Thursday. The president (Mr. Charles Garlick, Coventry) presided over a large attendance. The report stated that in some of the larger towns a considerable amount of Government work had been carried out during the past year, and the firms who had secured such contracts had been kept busy. On the other hand, the industry had become almost defunct in the smaller towns, especially in agricultural districts, where contractors had had to depend solely upon such private work as was absolutely necessary, and did not exceed the £500 limit. The "silver lining to the cloud" was, however, to be found in the fact that the National Federation were negotiating with the Government in reference to the allocation of contracts in respect of war work. Should the scheme be adopted, it was hoped that many members who had not yet had the opportunity would have a share at least in the carrying out of Government contracts. This report was approved. Officers for 1918 were appointed as follows: Mr. George Elvins (Birmingham), president; Mr. F. G. Hodges (Barton-on-Trent) and R. Friend (Rugby), vice-presidents; Mr. H. Wilcock (Wolverhampton), treasurer; and Mr. William Moffat (Birmingham) and Mr. George Allen (Derby), auditors. It was decided to invite the National Federation to hold their next half-yearly meeting at Leamington at the end of July next, when Mr. H. Wilcock, of Wolverhampton, will probably be the president of that organisation.

THE INSTITUTION OF CIVIL ENGINEERS.—The Council of the Institution of Civil Engineers have resolved that its examination in engineering drawing, bills of quantities and elementary knowledge of specifications, which is at present an optional subject, shall be, after January 1, 1919, obligatory for all candidates for associate membership. The examination is intended to be a suitable test of the knowledge and skill which should be acquired during the requisite training in engineering offices, and will apply to the several main departments of practice. The tests in drawing and quantities may be conducted in part by means of the production of drawings and quantities which have been prepared by candidates under their employers and teachers. Students of the Institution may be allowed to take the examination prior to the time at which they become candidates for election as associate members.

The Watford U.D.C. has instructed the surveyor to take the preliminary steps in an important town-planning scheme.

The death is announced, on January 7, at Addiscombe, of William Arthur Philpott, for nearly 40 years the managing clerk and faithful friend of Mr. George Baxter, F.S.I., 1, Frederick's Place, Old Jewry, E.C.

Mr. Jacob Crossley, mason and contractor, of Shawforth, died on Sunday week. The deceased, who was about 60 years of age, had been confined to bed about three months. He is survived by a widow and a daughter. A few years ago Mr. Crossley suffered from sunstroke, from which it is thought he never fully recovered.

Our Office Table.

A chapel which was an integral and original part of the main college chapel at Eton, opening out of the north porch, and long used as a choir vestry, has been "rediscovered," and it is suggested affords an admirable medium for memorial purposes in connection with College Chapel. In this north chapel are three windows of equal height, of which the tracery (filled with stone in recent times) still remains, and which can with ease and advantage be opened into College Chapel. The modern wooden book-cases and floor can be removed; the ancient pavement remains beneath the latter. The altar, now missing, should be restored on the lines still visible on wall and floor, giving the original dimensions. The ceiling is the only remnant of original and contemporary woodwork associated with College Chapel. The north window could well be filled with stained glass of rich and appropriate design. An inscription recording the purpose of the restoration and dedication could be placed over the new altar or over the newly-opened window on the side of College Chapel. The North Chapel might contain a *libro d'oro* of vellum containing the names of all Etonians who have served in the great war in black script; the names of those who have fallen in gold. The chapel is too small to contain any visible record of the names of the Eton dead on its walls, and other sites for this purpose are under consideration. One of those suggested is the colonnade under Upper School; and the panels of the school hall and the external eastern wall of College Chapel have also been mentioned. In order that the lessons and memory of Eton's share in the war shall be present to Etonians from their earliest days, it is felt that a part of the memorial should be placed in Lower Chapel. For this purpose, frescoes, tapestry, and wood panelling have been suggested.

The Homeland Association, Limited, 37 and 38, Maiden Lane, Covent Garden, London, W.C.2, has issued an excellent "Homeland Pocket Book" on the English and Welsh Cathedrals, which is offered as a plea for an awakening interest in the priceless examples of a virile architecture, always pointing upward, but little noted by the multitude, and is published with the hope that it will be helpful to those who would be glad to have an intelligent guide to the buildings and their contents. The book is written so as to be intelligible to the "man in the street" as well as to the student of architecture, and there is nothing in it not clearly understandable by the former, especially if he has already a knowledge of a very successful previous volume in the same series, "Our Homeland Churches and How to Study Them." The useful series of forty-two plans—all to a uniform scale of 120 ft. to the inch—is a feature, and, in addition, there are more than 100 illustrations. Evidently the authors have not relied upon previous knowledge, but have visited each cathedral at least once, and usually several times, solely for this book. They have done their work well, and the two volumes should secure a large sale. The published price is 3s. net each volume, and either of the two volumes may be obtained separately if desired. One deals with the cathedrals of the south, east, and west of England, including Westminster Abbey and the other with the cathedrals of the north of England, including Beverley Minster, and with those of Wales. There are introductory well-written articles on the architecture of our Homeland Cathedrals, the plan, division, and adjuncts of a cathedral church, and the origin and development of the stone vault. A full glossary is added of terms used in ecclesiastical architecture, a bibliography of useful books, and a table of the hours of the principal services at each cathedral.

Typhoid death rates in the ten cities of the United States with population in excess of 500,000 were as follows in 1916: New York, 3.85 per 1,000; Chicago, 5.12; Philadelphia, 7.49; St. Louis, 9.38; Boston, 3.44; Cleveland,

5.34; Baltimore, 18.15; Pittsburg, 8.63; Detroit, 15.22; Los Angeles, 2.78. Rates for all causes in Detroit are high, 19.25, because of the under-estimation of its population by the United States Census Bureau. Los Angeles has an abnormally low record of all deaths—12.55. It is a "young" city, and has only recently passed the 500,000 mark. Baltimore has filters, and still is the highest in typhoid. Flies doubtless carry the germs there.

At the last meeting of the Geological Society, Mr. B. Smith submitted a paper on the Chellaston gypsum breccia considered in its relation to the gypsum-anhydrite deposits of Britain. (1) At Chellaston the gypsum was laid down as such, and has suffered no appreciable alteration or addition since the time of its original deposition and brecciation. There is no evidence that the rock was ever anhydrous. (2) By comparison with this deposit, and also by independent evidence, it seems probable that most of the important beds of gypsum in the country were laid down as gypsum, and have behaved throughout as stratified deposits. (3) When anhydrite is present, the evidence favours the view that it is original, and was deposited in a stratiform manner in sequence with gypsum. (4) Microscopic evidence shows that there has been, in some cases, an alteration of anhydrite into gypsum where the two minerals were in original juxtaposition; this alteration, however, is considered to have occurred at, or immediately after, the time of deposition, and to be confined to the existing plane of contact of the two minerals.

The directors of the London County and Westminster Bank, Ltd., after making provision for bad and doubtful debts, appropriating £460,500 to contingency fund (investments and foreign securities), and £100,000 to bank premises account, have declared a dividend of 10 per cent. for the past half-year (less income-tax), making a total distribution of 19 per cent. for the year 1917, leaving a balance of about £184,600 to be carried forward.

The Committee of the Commission of Lieutenancy met at the Guildhall on Monday week, under the chairmanship of Dr. Edwin Freshfield, to consider the applications of twelve candidates for the post of Surveyor for the Lieutenancy, rendered vacant by the death of Mr. C. H. Shoppee. From these the Committee selected Mr. H. P. Monckton, F.R.I.B.A., F.S.I., C.C., Mr. A. Burnett Brown, M.S.A., F.S.I., and Mr. Dendy Watney, M.R.I.B.A. Mr. Monckton, in addition to being a Corporator, is a member of the City Local Tribunal and a representative of the City on the Thames Conservancy. Mr. Burnett Brown is at present the Master of the Musicians' Company, and in Masonry is widely known as Grand Superintendent of Works. Mr. Dendy Watney, a nephew of Sir John Watney, is Surveyor to the Mercers' Company. The three names will go before the Commission of Lieutenancy next Monday, and the final choice will then be made, in all probability.

Mr. C. B. Howdill, of Leeds, Lecturer on Building Subjects at Huddersfield Technical College, in a lecture on colour photography before the members of the York Philosophical Society last Thursday, suggested that amateur colour photographers who had good colour negatives of medieval stained glass should present them to the nearest local museum or reference library when finished with. Such records of the existing fragile work of our forefathers would then be retained for succeeding generations of all interested in the art. He possessed a number of such negatives of old glass in York, Fairfield, and Oxford, made during the past twenty years, and he had given instructions that his negatives and colour records of the York glass, especially that in the Minster, should be given to the Dean and Chapter to be kept in the Minster Library for future reference.

It is estimated that the timber now being felled in British woods is worth well over £20,000,000. Practically the whole of this timber has been requisitioned by the Government for the Army, and the prices being

paid are exceedingly high. Single oaks have realised as much as £100, and smaller timber fetches anything from two to seven shillings a cubic foot. Just recently a belt of timber on Lord Tredegar's estate in Monmouthshire fetched nearly £11,000, and splendid returns are falling to the lot of landowners who were wise enough to set out plantations twenty or thirty years ago.

CHIPS.

Mr. Robert Craft, of London Road, High Wycombe, Bucks, retired timber dealer, has left £20,651.

At Wednesbury Town Council, last week, it was decided to increase the salary of the borough surveyor from £300 to £350.

The late Mr. Hippolyte Jean Blanc, Academician, Royal Scottish Academy, J.P., and residing at 17, Strathearn Place, Edinburgh, has left £12,061.

Mr. Ivor Beaumont gave an address on "Ravenna: Its Architecture and Mosaics" before the Incorporated Institute of British Decorators at Painters' Hall yesterday.

Lieut. Rope Wallace, Northumberland Fusiliers, of Featherstone Castle, Haltwhistle, Northumberland, water-colour painter, killed in action on September 15, has left £96,977.

The Earl of Lindsey has appointed Mr. C. E. Packer, of Rock House, Ketton, agent for his Uffington Estates. Mr. Packer is agent for Sir Arthur J. Fludyer, Bart., Mrs. Pugh, Ryhall, and others.

The Press Association learns that the War Cabinet has not revised its decision with regard to the British Museum, and the galleries will, therefore, be taken over as soon as the exhibits have been removed to a place of safety.

It is announced in the *London Gazette* that Major G. F. R. Wingate, R.A., has been appointed Chief Instructor in Map Reading and Field Sketching (G.S.O.) at the Royal Military Academy, in place of Major A. C. L. Theobald, D.S.O., R.A.

In consequence of His Majesty's Office of Works having acquired the whole of 17, Eldon Square, Messrs. Marshall and Tweedy, architects, have been compelled to remove to 54, Grey Street, Newcastle-upon-Tyne, immediately opposite the Bank of England.

In a Canadian concrete round-house, paper joints are provided around panels in front of each track, and the columns and lintels so designed that should a locomotive overrun and strike the wall no serious damage can result. The same idea is applicable to other buildings where heavy impact is possible.

A memorial window representing St. John the Evangelist was dedicated last Friday at St. Luke's Church, Kew, by the Rev. P. M. Chamney, vicar of Upton Southam, Warwickshire, a former vicar. The window is in memory of the Rev. Samuel Goldney, for many years connected with the church, who died in April, 1917, at the age of 82.

Col. Robert S. Low, whose name is so well known in connection with the construction of Canada's military camps, has been appointed chairman of the Reconstruction and Repair Committee at Halifax, which is to have charge of the construction and repair work in the devastated city. Mr. Hamilton Lindsay has been appointed assistant manager.

The great bell of Cologne Cathedral, called the Maria Gloriosa, was rung for the last time on New Year's Eve. The metal of the bell, which weighed many tons, will now be employed for war purposes. The bell hung in the southern tower, and was first rung on the birthday of William I. on March 22, 1877. It was cast from French guns captured in 1870-71.

At the third ordinary meeting of the Royal Statistical Society, at 5.15 p.m., on Tuesday, January 15, 1918, at the society's rooms, the following paper was read:—"Urban Housing Problems," by Mr. J. Calvert Spensley. (a) Present position: Decline in rate of building; decline in proportion of empty properties. (b) Forecast of requirements: Growth of population; proportion of working-class in population; relation between population and accommodation required; relief of overcrowding; replacements and commercial development; summary of requirements. (c) Factors affecting supply: Analysis of rent; differentiation of rates on working-class dwellings; cheap locomotion; causes of the decline in the rate of building. (d) Means of supply: Special housing agencies; conversion of non-working-class houses; possible reduction of over-housing. (e) Provision of housing after the war: Planning; financial assistance; outlook.

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TENDERS.

*Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender: it adds to the value of the information.

BAKEWELL.—For drainage work at Ashford, for the BAKEWELL Rural District Council:—

Allsopp and Son (accepted) .. £49 10 0

BOSTON.—For a corrugated iron and boarded building to be erected in Pen Street, Boston, for the Boston Watch Committee:—

Lucas and Son, Boston (accepted) £55 0 0

COLCHESTER.—For erection of a tool-shed at Lexden, for the Colchester Town Council:—

R. Beaumont and Son (accepted) £56 0 0

MARPLE.—For supply of materials (One Year), for the Marple Urban District Council. Mr. D. J. Diver, Surveyor.

Accepted tenders:—Granite, Penmaenmawr Granite Co., Penmaenmawr, and Pwllheli Granite Co., Pwllheli; sanitary pipes, J. Duckett and Sons, Burnley.

OXFORD.—For extensions at the sewage pumping station, for the Waterworks Committee:—

Simms and Son, Walton Wells Road .. £217 0 0
(Accepted.)

ROMFORD.—For sinking well at the west end of the laundry, for the guardians:—

C. T. Walker, £175, with extras not to exceed £15 (accepted).

LIST OF TENDERS OPEN.

COMPETITIONS.

Jan. 31.—Designs are invited for four specified types of cottages suitable for the industrial classes. A competition, under the charge of the Royal Institute of British Architects and allied societies, will be held in each of the six areas mentioned below. Premiums of £100 and £50 for the best designs of each of three types, and £50 and £30 for the fourth, will be awarded in each competition. Designs must be submitted in accordance with the conditions not later than January 13. Copies of the conditions may be obtained from the following:—Home Counties Area: The Secretary, Royal Institute of British Architects, 9, Conduit Street, London, W.1; Northern Area: Mr. H. A. Bicks, hon. sec., Northern Architectural Society, 6, Higham Place, Newcastle-upon-Tyne; Manchester and Liverpool Area: Mr. Isaac Taylor, hon. sec., Manchester Society of Architects, Mansfield Chambers, 17, St. Ann's Square, Manchester; Midland Area: Mr. A. Hale, hon. sec., Birmingham Architectural Association, 18, Bennett's Hill, Birmingham; South Wales Area: Mr. C. H. Kemphorne, hon. sec., South Wales Institute of Architects, Albert Chambers, High Street, Cardiff; South-west Area: Mr. A. J. Pinn, hon. sec., Devon and Exeter Architectural Society, 5, Bedford Circus, Exeter.

ENGINEERING.

Jan. 19.—Supplying and erecting the necessary machines for the equipment of the laundry at Ballymena workhouse, in accordance with plans and specification.—For the Guardians.—C. Johnston, Clerk, Ballymena.

March 30.—The Acting British Consul at Santiago reports that a decree has been issued calling for tenders for the improvement of the port of Antofagasta (Chile). By the terms of this decree the amount to be expended on this work must not exceed £1,700,000. Details may be obtained from the Port Commission Offices in Santiago, and copies are expected to be received shortly at the offices of the Chilean Legation in London, 22, Grosvenor Square, W.1. Tenders will be received up to 3 p.m. on March 30 by the Minister of Finance, Santiago.

PAINTING.

Feb. 6.—Painting at various places.—For the Lancashire and Yorkshire Railway.—Forms of tender and specification may be obtained on personal application at the Engineer's office, Hunt's Bank, Manchester. Tenders, endorsed "Tender for Painting," to R. C. Irwin, Secretary, Hunt's Bank, Manchester.

PLUMBING AND GLAZING.

Jan. 21.—Execution of general contractors' and plumbers' work that may be required in connection with the drainage of houses and other premises (one year, ending March 31, 1919).—For the Manchester Corporation.—Forms of tender, general conditions, and specifications for each of the three districts of the city may be obtained on application to the Superintendent of the Sanitary Department, Drainage Branch, Clivic Buildings, Mount Street, Manchester, on payment of £1 is. for each of the districts.—Sealed tenders, to the Chairman of the Drainage Sub-Committee, received at the Sanitary Department, Drainage Branch.

TO CORRESPONDENTS.

We do not hold ourselves responsible for the opinions of our correspondents. All communications should be drawn up as briefly as possible, as there are many claimants upon the space allotted to correspondents.

It is particularly requested that all drawings and all communications respecting illustrations or literary matter, books for review, etc., should be addressed to the Editor of the BUILDING NEWS, Effingham House, 1, Arundel Street, Strand, W.C.2, and not to members of the staff by name. Delay is not infrequently otherwise caused. All drawings and other communications are sent at contributors' risks, and the Editor will not undertake to pay for, or be liable for, unsought contributions.

When favouring us with drawings or photographs, architects are asked kindly to state how long the building has been erected. It does neither them nor us much good to illustrate buildings which have been some time executed, except under special circumstances.

*Drawings of selected competition designs, important public and private buildings, details of old and new work, and good sketches are always welcome, and for such no charge is made for insertion. Of more commonplace subjects, small churches, chapels, houses, etc.—we have usually far more sent than we can insert, but are glad to do so when space permits, on mutually advantageous terms, which may be ascertained on application.

Advertisements for the current week must reach the office not later than 3 p.m. on Tuesday. Front-page advertisements and alterations or stop orders for serial advertisements must reach the office by first post on Monday to secure attention.

Telephone: Gerrard 1201.

Telegrams: "Timeserver, Estrand, London."

RECEIVED.—G. and G.—I. C. S.—W. S.—T. B.—B. C. and S.—W. R. L.—W. and K.—D. J. S. and Co., Ltd.—S. Bros., Ltd.—W. J. F.—C. P. and Co.—J. D. and Son—F. and J.—L. and Co.—J. O. and Sons, Ltd.—C. A. Y.—E. A. Co., Ltd.—F. F.—G. I. F. Co., Ltd.—R. and R.—B. Bros., Ltd.—M. Bros.—W. V. and Son—D. Bros., Ltd.—Q. F. Co., Ltd.—G. P. A.—A. W. B.—E. H. O.

D. H. J.—Yes.

NESCIT'S.—Thanks, no.

P. JACKSON.—Yes, as an advertisement.

WORCESTER.—The spire of Salisbury Cathedral is 404 feet high.

Richmond Corporation have decided to rename a street "Thompson" as a memorial to the late Alderman Thompson, a pioneer in housing reform.

Mr. A. Rodwell, surveyor to the Skipton Rural District Council, has lost his youngest son, Second-Lieut. Bert Rodwell, who has been killed in action.

Miss Mary Brodrick, lecturing at Kensington Town Hall last Friday, said that trade unions existed in Egypt 1,500 years ago. It was recorded that workmen engaged on building one of the tombs of the kings came out on strike because they objected to the introduction of Venetian labour.

Lieut. C. O. Boulton, R.E., who prior to the war was senior assistant in the borough engineer's department of the Wandsworth Borough Council, was killed in action on November 9. Mr. Boulton was exempted from military service in March, 1916, on the appeal of his council, but in November, 1916, he was specially released on his own application, and proceeded to France to join the Road Battalion of the R.E.

The L.C.C. afternoon language classes, held at Bolt Court, Fleet Street, and at Kingsway Hall, having completed a very successful first term at Christmas, reopen this week to continue the winter session. There are classes in various stages of French, Russian, Italian, Spanish, German, Norwegian, and Danish, and a new advanced class in advanced French conversation is being formed. An entrance fee of 5s. is all that is charged. Particulars may be obtained from Mr. D. Magill, Principal, "Hugh Myddelton" Evening Commercial Institute, Clerkenwell, near Farringdon Street.

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Strand, W.C.2.

OUR ILLUSTRATIONS.

Proposed Flats de Luxe, Portland Place, London, W.
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Hamp, A.R.I.B.A., Architects.
The London County Council's Better Housing for
the Working Classes. The Old Oak Estate, Ham-
mersmith. Mr. W. E. Riley, F.R.I.B.A.,
Superintending Architect London County Coun-
cil, Architect.

Currente Calamo.

Mortgages are always matters of peculiar and personal interest to builders and the building trades. This is not only because a mortgage is practically the only method by means of which those who build can obtain financial aid, but also on account of the plenary powers that the law gives to mortgagees to secure their money. When war broke out the Courts (Emergency Powers) Act, 1914, had to be passed to prevent unfair pressure and injustice. The scope and purpose of this Act have just been fully considered by Mr. Justice Eve in the case of "In re Jobson's application and in the matter of Chapman's mortgage" (*Times*, January 17). The mortgage, dated 1906, had been given for £12,500 upon business premises at Eastbourne, then valued at £21,800, at 4 per cent. interest. This had since been reduced by voluntary payments of £500 each to £9,350. The mortgagee had then called in his money, as he had a right to do, and he now applied under the Act for leave to realise his security, or, in other words, to sell the property upon the mortgagor's default in repayment. In fact another £1,000 had since been paid off, so that the amount due was now £8,350. The judge, in considering how he should use his full discretionary power in this case, pointed out that the borrower's best, and, indeed, only, practicable course was to obtain a transfer of the mortgage to some other lender. In the present financial state of things this was not easily to be done, and the borrower asked for time in which to arrange such a transfer. The security was admittedly sufficient, and all the mortgage covenants had been maintained. The judge finally made an order that, on the mortgagor agreeing to increase the rate of interest to 5 per cent. and to pay off a further £500 in October, the mortgagee's remedies should be suspended for one year, if the war last so long, the costs to be added to the security, with liberty to apply upon any default. The Act was not intended to protect insolvent debtors nor to reduce the rights of mortgagees, but only to suspend their remedies in cases like this one, where enforcement would work harshly and cause injustice.

We are, it is said, to have another experiment in town-planning, which has the support of many social reformers, among whom are leading members of the Society of Friends. The pioneer organisation has been formed to look for a suitable site of about 3,000 acres and to secure an option. The general aim, in the words of the prospectus that is being circulated, is "the foundation of a new town which will be a valuable object-lesson in social reconstruction, and provide a fruitful field for experiments in management generally, in the organisation of manufacture and distribution and in enterprise in many directions." Among the suggestions are that all houses shall be built and owned by the town, a central store to replace the ordinary private shop, and on the industrial side co-operative undertakings in field, factory, and workshop, "with the object of producing for use rather than for profit." The purpose will be to eliminate from the economic life of the town the exploitation of labour through rent, interest, and profit for private ends, to provide useful work under healthy conditions, a common, comprehensive, and unified system of education, and facilities for recreation. The site chosen is to be one suitable for complete agricultural, industrial, and residential development on the most modern and progressive lines.

At the last meeting of the Mansion House Council on Health and Housing, held under the presidency of Mr. A. E. Franklin, it was decided to prepare a report on the housing requirements in London and in Greater London, with a view to discovering to what extent large houses now in many cases unlet can be converted into healthy and sanitary homes for the working classes. The intention is good, but, as we have often pointed out, the empty houses in the central districts of London, which were built for and occupied by the middle classes, are in most cases quite out of date as regards sanitation and modern appliances we have become accustomed to regard as indispensable to health and comfort, and are besides structurally unfit for economical conversion into flats. In most cases it would be better to clear the sites and erect buildings of a more remunerative character, and to concentrate all energies on the provision

of cottage dwellings in the outer suburbs, and to facilitate cheap transit thereto.

Writing on the housing question, Mr. A. G. Bonsor, of Kingston, insists that it would be a mistake for the Government to undertake the building of houses, as it would mean the creation of another expensive Government Department. He suggests that the private individual should once more have an opportunity of building as he did in the past until the various Acts passed made it impossible for either the banks or individuals to finance building operations. Mr. Bonsor is strongly of the opinion that, instead of a new industrial or State bank being required, the work of financing could be carried out by our existing Joint Stock Banks through the various local managers, who are well able to form an opinion as to the advisability of advancing the necessary funds, but they must be given discretionary powers, so that it is not necessary to refer everything to the head office. If given a reasonably free hand, he is convinced there will be no reason for complaint. They should have power to lend at least three-quarters of the actual cost of building. Further than this, Mr. Bonsor would make it feasible for every tenant to purchase his own house through the existing building societies. He suggests that the society should advance three-quarters of the purchase money upon the usual repayment system, and the Government, through the local bank, should advance the remaining quarter in the same way as a second mortgage is arranged. All good, sensible advice, and likely to encourage real thrift.

In his paper on "The Employment in the Surveyor's Profession of Men Disabled in the War," read before the Surveyors' Institution on Monday week, Mr. L. G. Pilkington, of the Y.M.C.A., gave some cogent facts, which were emphasised by Mr. E. H. Blake, F.S.I., who reminded his hearers in the discussion which followed that 9,000 surveyors have responded to the call, and that 3,250 of his own past and present pupils are serving at the present time. They have served, too, with signal distinction.

One has gained the V.C., 37 have gained the D.S.O., and 220 the M.C., while another 230 have been mentioned in dispatches. The probable condition of the profession after the war opens up some interesting speculations. Its numbers will have been depleted by battle and disease, while a certain proportion of its fighting members will be more or less disabled. Meanwhile deaths in civil life are removing the usual statistical proportion of those who have remained at home, while the cessation of additions owing to the sweeping of students into the Army has stagnated the natural growth of numerical strength. It is likely, therefore, that when peace comes there will be room for many new surveyors, and now is the time for young men to qualify themselves.

The advertisement of a house to let in the Westminster district with division bells laid on, says a correspondent of the *Liverpool Courier*, reminds us that several of the pleasant residences in the side streets at the back of the Abbey enjoy this exceptional privilege. They are near enough to the Houses of Parliament for an M.P. to dine at home with his friends and yet scamper back to the House in time to vote if an important division is called. Lord Gladstone was one of those who had direct connection with the House of Commons in this way when, as Mr. Herbert Gladstone, he filled the position of Chief Government Whip. Mr. Runciman, it is stated, is another member similarly privileged. At one time all the houses were threatened with the loss of their division bells through a plot being laid to assemble M.P.'s at one of them in order to bring off a snap division. The division bells are also set ringing in the St. Stephen's Club, which has its home right under the shadow of Big Ben, but it has never been suggested that its members have taken unfair advantage of the privilege. Nevertheless, this particular connection had the effect on one occasion of bringing about the defeat of the then Unionist Government. The St. Stephen's Club is strictly Unionist, and just before a division was called some of the Irish Nationalist members, as a practical joke, contrived to disconnect the wires which set the bells ringing in the club. The result was that a large number of Unionists were absentees, and Mr. Bulfour's Government found itself in a minority. But the Tories enjoyed the joke, and no formal notice was taken of the incident.

Many are asking what has been the fate under German rule of the famous Mannekin statue of Brussels, that little boy—brazen in more ways than one—so beloved of the Bruxellois. The "most ancient citizen of Brussels" has since the twelfth century looked passively on at all the troubles that have visited Brussels from the civil wars of the Dukes of Burgundy down to the present German occupation, and in the course of these changes so well has he been accommodated to the

exigencies of the moment that probably no other public statue has been the recipient of so many honours. Charles V. of France awarded him a pension, which was added to by Peter the Great, who, bowing low before the Mannekin, said, "Sire, I come to see you as you go to see no one." The Duke Maximilian in 1698 seriously invested him with an order, a similar dignity being conferred upon him by Louis XV., who, in addition, gave him a uniform and sword. But honours came not alone from people of high degree, as the citizens themselves from time to time made him votive gifts, and even remembered him in their wills. So strong did his financial position become that a treasurer was appointed to look after his interests, and so important was he that he had a special beadle to keep him clean and dress him up on gala days.

Mr. W. A. Bayst, of Woodford Green, who claims, on September 15, 1917, to have predicted the capture of Jerusalem by the British, wants to celebrate the "Glory dawn of British Destiny" by making a "six-mile vista from the Temple to Sydenham." Here is his adjuration to all Britishers:—"Opposite the Royal Courts of Justice there is relatively one of the ugliest blocks of buildings in the metropolis, which narrows Fleet Street and the Strand to a Dangerous Point, Obliterating One of the Most Handsome and Gothic Facades in the Empire. Pull down this unsightly vandalism as suggested, and widen the Road and let a Symbolic Light of Truth and Real Day Light Beat on the Architectural Face of Justice. Permit the World to Peer to the South and see the Grand Old Temple Church, now stifled by stale bricks and mortar where Oliver Goldsmith lay buried. Challenge the work of the coarse plain builder of a much later period, and even white-washed and glazed walls, an apology for cheap light and venal taste. Thin out the Temple and Release the Incarcerated Dreams and Achievements in Architectural Splendour and Sublime History. Let in the Air and Unearth the Temple Gardens for the ninety-nine per cent. of Britishers, who concerning this Unique Spot, have not yet 'seen the forest for the trees,' in their admiration for the Bar. Unchoke the Picturesque Seat of Learning and Architectural Fabric of Justice—the Classic Temple Libraries and Brains of the Law. Give us a Six Mile Vista from Fleet Street and the Strand to Sydenham, and form this Vital Centre the Old Temple Bar, where Two Noble Cities Caress: the Twin Towns of the Empire: Send a Thrill of Pride from this Heart of the Empire through the English Speaking Race, no matter from what Part of the World they may come. From Chancery Lane to Essex Street. Remove the Obstruction to a New World Vision and give One People with One Destiny, a Mental, Moral, Visual and Actual Trip—a Drive to the Seat of Understanding, Industrial, and International Goodwill and Co-operative British Citizenship. A Hand in Life's Improved Working Plan and a Co-partnership Interest in the

Working Drama of the Empire's Daily Work, Aims, and Destiny, soon to be Exemplified at Sydenham for All." Well, money might be worse spent than on such a war memorial, and if no "glory dawn" follows, at least a good deal of comparatively worthless property *en route* would be improved!

THE LONDON COUNTY COUNCIL'S BETTER HOUSING FOR THE WORKING CLASSES.—II.

Comparatively little was done by the old Metropolitan Board of Works in the way of housing. During the next four years following the first of the Cross Acts in 1875, it indeed initiated no fewer than eleven schemes, subsequently increased to sixteen. In no case did it erect any dwellings, but sold the slum areas it dealt with, restricting the use of the land in perpetuity—afterwards for a term of ten years—for the provision of working-class dwellings. Under the sixteen schemes dealt with from 1875 to 1882, the number of people displaced was 22,872, and 28,352 were rehoused at a gross cost of £1,669,998, a recompent being obtained of £351,108, the net cost being £1,318,390.

As soon as the London County Council was formed a distinct change for the better took place. Greater vigour of administration was at once apparent, but instead of precipitate departure from the policy of the Metropolitan Board of Works, the wiser course was adopted of painstaking inquiry as to the direction which any new attempts to deal with the unsolved problem should take. One of the first steps taken was to appoint Mr., afterwards Sir, Shirley F. Murphy as Medical Officer of Health for the County of London, and information was carefully sought as to the existence of insanitary areas throughout the county, attention being drawn in a few months to no fewer than 200 separate congeries of houses. Most of these were inspected by the Housing Committee, when it appeared that a large number could only be effectively dealt with by means of Torrens' Acts, and this course was accordingly suggested to the local authorities. They did little or nothing, hampered as they were by the insufficiency of the law and the inertia of their members. The Council then set to work, as we stated last week, to impress the Government with the necessity of better legislation, and the result, as we mentioned, was the appointment of a Royal Commission, and the subsequent passage of the Housing of the Working Classes Act of 1890. Then the Council set to work to stimulate action by the local authorities, offering to facilitate loans and to contribute towards the cost of schemes provided that it was satisfied with the details thereof and the need for assistance. Not content with this, the Council determined to deal itself with the Boundary Street area in Bethnal Green, obtaining a Provisional Order in May, 1891, which was confirmed in the following July. The scheme was completed in March, 1900, and on the 3rd of that month visited by King Edward VII., then Prince of Wales, and Queen Alexandra. The number of persons displaced was 5,719. The Council had been required to provide accommodation for 4,700 persons, but it rehoused 5,524, or 824 more than it was obliged, together with 18 shops and 77 workshops. The 5,524 rehoused were distributed in 1,069 tenements, making an average of 5.2 persons to each tenement.

The next scheme undertaken was the

St. Pancras Churchway area, the Provisional Order for which was confirmed on March 29, 1897. The work was completed by the middle of 1902. In 1895 the Council began to deal with the Clare Market and adjacent areas scheme, which was finally completed about June, 1902. The Garden Row scheme was undertaken in 1899, and completed in 1907; the Webber Row scheme, Blackfriars, followed, completed in 1907; the Clerkenwell and Union buildings scheme was completed by 1908; the Burford's Court scheme, Poplar, by 1904; the Nightingale Street, Marylebone, by 1905; the Tabard Street, Southwark, scheme followed in 1911. Other schemes have been those at Brooke's Market, Holborn; Mill Lane, Deptford; Ann Street, Poplar; Falcon Court, Borough; the Borough Road and Green Street schemes; and the Millbank Estate, Westminster.

In March, 1899, Mr. W. E. Riley, F.R.I.B.A., was elected as Superintending Architect to the Council, and his appointment was coeval with a burst of activity which will ever redound to the credit of the Housing Committees concerned, and which has earned for Mr. Riley a reputation second to none of his predecessors or contemporaries who have been concerned with the design or superintendence of houses for the people. Since Mr. Riley took office the London County Council has provided accommodation for 51,518 persons of the working classes in block-dwellings, cottages, and lodging-houses, all designed and erected under his supervision. Of these, 27,162 persons have been housed in block dwellings at a cost of £1,237,651; 22,806 in cottages, with roads and sewers, costing £870,932; and 1,550 in cubicles in lodging-houses, costing £106,578. When the ever-widening sphere of the architect's department of the Council is borne in mind, and the immense additional work and responsibility that has devolved on Mr. Riley and his excellent staff, including the transfer of the old School Board to the control of the Council, the extension of the Building Acts, and the influx of other matters, it is little short of a marvel that even his well-known enthusiasm regarding all that concerns the housing of the people has been equal to the results he has achieved; and we are sure that many of his brethren and all who know him will be disappointed if at his approaching regrettable but well-earned retirement some signal mark of recognition other than in the power of the Council to accord, does not gratify all who desire to see the energies of the coming generation of architects as house-builders for the people stimulated to the utmost.

It has long been an open secret that Mr. Riley has been a believer in cottage dwellings in the open suburbs rather than those of the barrack type on the cleared areas in the crowded centres of population. That at times block dwellings, to meet special needs, may have to be provided goes without saying. Mr. Riley has had to design such, and his successors will doubtless have to do so. It must not be forgotten either that the wise resolve of the London County Council to build cottages rather than blocks would have been a barren one but for the splendid cheap transit tramways scheme organised by the Council. The working men of London will do well to remember this, and to make sure presently that there shall be no diminution of the activities of the Tramway Section, and that those of the Housing Section, not so long since one of the busiest and most numerously staffed of the Council, shall be accorded once more the fullest scope of action.

Whatever may happen to London in the near future as regards increases or decrease of population, it seems likely that the population of the extra-London districts will continue to increase, while that of the County itself will remain stationary. If this forecast is found a true one it is evident that the Council will have no option but to increase its cottage-homes schemes and to extend facilities of access by its tramway system. So far the difference between rents of central block dwellings and of those in the suburban districts has been usually in favour of the latter where railway fares have to be paid, and almost invariably so where the tram-car is available. In the suburban dwelling, moreover, with its advantages of air-space and pleasant surroundings, the tenants have experienced a reduction of other necessary expenses. In any case the Council has well earned the right to be consulted in regard to all housing schemes which any Government may undertake, or permit local metropolitan bodies to undertake. It has been manifest already that under the Housing, Town Planning, etc., Act of 1909 houses may be erected according to a type of planning which the Council has proved to be, to say the least, not likely to result in the provision of dwellings on the best sanitary principles—namely on that bed-rock of all real sanitation as regards housing, efficient ventilation—but which it has been unable to prevent in at least one group of block dwellings proposed to be erected in 1911 by a philanthropic fund. If in "standardised plans" presently to be prescribed by the Government for adoption throughout the country some of the vagaries patent in past suggestions of Government Departments are to be perpetuated, we ought at least to be allowed in London to continue to reap the better fruits of the past experience and sounder knowledge of the London County Council and its officers and advisers.

THE OLD OAK ESTATE, HAMMERSMITH.

We commence our series of illustrations this week with two single-page photographs and a double sheet of plans, etc., of the Old Oak Estate, Hammersmith. The site embraced 56.79 acres, which was purchased in March, 1905, at £550 per acre, under Part III. of the Housing of the Working Classes Act, 1890, but was reduced after sales, etc., to 45.61 acres. The property, which is about five miles from Charing Cross, is bounded on the north by Wormwood Scrubbs, an open space of 215 acres in extent, and on the west by the umbrageous Old Oak Common Lane; as the ground rises towards the west, good views are obtainable.

The first contract was let in July, 1910. Work under ten contracts has been carried out, and 13.75 acres of the estate developed.

The accommodation provided to date includes one estate office; 18 bicycle sheds, etc., let at 2d. and 3d. per week; 65 five-room cottages at 11s. to 13s. per week; 105 four-room cottages at 9s. to 11s. per week; 106 three-room cottages at 6s. 6d. to 9s. 6d. per week; 27 two-room flats at 4s. 6d. and 5s. per week; and 16 one-room flats at 4s. per week—a total of 319 lettings, all including rates and taxes. The total accommodation provided is for 2,231 persons, taking two persons per habitable room of not less than 96 ft. super. The actual population, including children, in March, 1915, was 1,240, in 23.2 lettings per acre.

The expenditure to date has been £19,957 on the development of the land and making roads, sewers, etc., and

£77,157 on the buildings, making a total of £97,114.

The cost of the five-roomed cottages ranged from £235 to £327 10s.; of the four-room ones from £213 to £281; of the three-room ones from £159 to £223; of the two-room ones from £134 to £149; of the one-room flats from £93 to £118; and of the two-room flats from £119 to £132, in each case including professional expenses. The average cost per room, buildings and plans included, was £63 1s., and 5.6d. per foot cube.

The loss by empties during 1916 and 1917 has only been £13 10s., and a surplus on the year's working is shown of £1,355 3s. 3d.

The whole of the work has been designed by and carried out under the direction of Mr. W. E. Riley, F.R.I.B.A., the Superintending Architect to the Council.

PROBLEMS IN AMERICAN INDUSTRIAL HOUSING.

BY LESLIE H. ALLEN.*

During the past two or three years employers of labour in all our big industrial centres have experienced such great difficulty in getting and keeping employees, that much attention has been focused upon the employment situation. The results of many investigations have shown that one of the prime causes for the shifting population and large labour turnover of many industrial plants is the utterly inadequate housing accommodations available for the industrial worker.

In years gone by wages were low and the cost of turnover was hardly considered, for there was always a long line of new men waiting for a job, and, because of this excess of supply of men over demand, a man was not so ready to throw up his job and seek another. He would put up with housing conditions for the sake of having any job at all. But in the present labour situation, with demand far exceeding the supply, the workman will no longer be content with the disgraceful housing conditions he has had to put up with.

THE EFFECT OF PRESENT CRISIS.

Very little is being done at the present time to remedy this state of affairs, owing to the fact that the present abnormal prices of labour and building materials have shut off the supply of houses. Heretofore the demand for houses has been supplied by the speculative builder and the real estate operator. But at the present time he can no longer afford to build; in many cities he cannot get construction loans, and, even if he does, he cannot hope to sell in the open market at present prices, and cannot be sure of any return on his money by renting, having in mind a possible trade depression during the reconstruction period which will come at the end of the war; so that, while the demand for better houses continues, the supply is getting less and less. In view of the probability that the labour situation will not change for four or five years after the close of the war, the manufacturer is faced with the very serious problem of how best to compete in the labour market for his needs, with the knowledge that housing is an important factor, in which he will get no help from local investors, as in former years.

He has long felt that the housing problem is one to which he ought to give serious attention. He has disliked doing so, and for good reason, but the present crisis is forcing upon him the conviction that he has got to tackle it, and that in the future he ought to control it.

THE BUILDING PROBLEM.

When the manufacturer has decided to build, he is faced with the problem of selecting the type of house he shall build, its size, number of rooms, materials of construction, amount of land per house, and so on. On these subjects there are as many differences of opinion as there are experts studying them.

It is unfortunately true that many developments have fallen far short of the hopes of their planners because too much stress was laid on unpractical ideals and less important

* Of the Aberthaw Construction Company.

features, so that housing planned for the working man proved unsuitable for him.

In order to arrive at some working basis to govern the laying out of new work, it will be well at this point to consider the essential needs of a workman's family in the light of present-day needs.

It must first be recognised that we have two classes of workmen to be considered: (1) The unskilled workmen, mostly foreigners or negroes, uneducated, unused to our own standards of living, earning a very low wage; and (2) the skilled men, mechanics, machinists, etc., earning a higher wage, living according to our standards, demanding more and willing to pay more for the comforts that the foreigner does not consider essential. The result of a failure to distinguish these two classes is that at the present time nearly all the houses built are houses for skilled workmen, and the need for better houses for unskilled labour has remained unsatisfied, resulting in overcrowding getting worse and worse.

The various types of houses now in use are as follows:

- (A) Single houses of five to seven rooms.
- (B) Two-family houses of four to seven rooms.
- (C) Terrace or row houses of four rooms and up.
- (D) Apartment houses or tenements, two rooms and up.
- (E) Boarding houses for single men.
- (F) Hotels.

The single house is the ideal residence for the American family, but is beyond the means of the low-paid, unskilled workman. A single house with five or six rooms with 3,000 feet of land cannot be built for less than \$3,000, except in the cheapest kind of frame construction, and even at this price it would call for a higher rental than he can afford to pay. For higher-paid men in the plant the single house is very desirable.

The two-family house is often built for workers who wish to purchase their home. Though not suitable for the unskilled worker, they are quite attractive to higher-paid men who like to buy a two-family house so that the rental received from one-half of the house will help to pay the carrying charges and amortisation of the whole house. In some cases these are built side by side with a party wall, and in some cases one tenement is built above the other. The first-named is preferable, as there is more privacy.

One of the most successful houses for the unskilled worker is that known as the "Philadelphia" type of house, of which many thousands have been built in Philadelphia, Washington, and other large cities. The typical four-room Philadelphia house is two rooms deep, and has a living-room and kitchen downstairs, two bedrooms and bath upstairs. It is built in long rows or terraces, with party walls in between. These can be built on as narrow a frontage as 13 ft. 6 in. (a 15 ft. frontage is desirable), on a lot of 900 square ft. The cost of both land and building is much lower than the preceding type. Houses built when prices were normal have been rented for as low as \$12 a month, and have shown a fair profit.

The building of houses in terraces is comparatively new in this country, although it is very common in European countries. It allows for a very little land per house unless the lots are very deep, but is desirable in many other ways. Each family has a direct entrance from the street, without any common hall-way, and is not interfered with by other tenants overhead. The cost of heating the house is less owing to there being fewer outside walls. In a house two rooms deep each room has a proper amount of light and ventilation, and these houses have proved very successful wherever they have been used.

A recent variation of this type is the three-room two-family terrace house, with one family on each floor. These are generally in demand by married couples without children.

The multiple dwelling or tenement house, housing from ten to fifty or more families, is undesirable from many points of view, and

yet in crowded cities, where land values are high, is practically the only solution.

Apartments of all sizes can be provided, the most common arrangements being three rooms (kitchen, living-room, and bedroom) or four rooms (kitchen, living-room, and two bedrooms). Each apartment should have its own private toilet and its own water supply.

Although city laws do not in every case require it, multiple dwellings ought in every case to have fireproof stairways and fireproof cellars, and care should be taken to see that every room and also the halls and stairs are properly lighted. In English cities the stairs are often built outside the building, and each apartment is approached from balconies.

The industrial manager at this point may well stop in bewilderment not knowing how to proceed next, what size and type of house he needs to choose from this list being quite a puzzle. On this point it is impossible for any expert to offer advice until his local needs are accurately determined, and to do this the only safe way is to institute a careful survey of the housing conditions and needs of his locality. It is difficult to persuade him to do this, as each man thinks he knows just what his present conditions and needs are, whereas, in point of fact, his guesses are often wide of the mark. The first and only impulse of many a man is to build as many six-room houses as he can, adding, perhaps, a few seven and eight-room houses for good measure. Until he knows the number of married couples without children he does not know how many small houses or apartments are needed. If he doesn't know the number of unattached single men he doesn't know how many lodgers must be taken care of, and unless he has facts before him as to the present habits and environments of those men he doesn't know whether in his town the lodger evil is the moral and social menace that the social reformer alleges it to be. He must know, too, the size of the different families with children, whether they are properly housed at present, and must have some facts before him on birth rates, death rates, sickness, and infant mortality, etc., compared with other cities, before he can be sure that his town needs improvement and what improvement it needs.

The only way of getting these facts is by a careful survey by an expert at this sort of work.

MATERIALS OF CONSTRUCTION.

Very little change has been made in recent years in construction methods and materials, the chief alteration being towards the reduction of fire risks and conflagration hazards.

The standard form of wall construction for rural districts continues to be wooden framing. Where city laws do not forbid it, this is used in the cities. The frame is usually lathed and plastered inside and covered with rough boarding, paper and shingles or clapboards outside. Cement stucco on wire lath is coming into vogue for exterior finish—at a slightly higher cost; this when put on satisfactorily requires less maintenance and no re-painting, but requires expert workmanship to make a satisfactory job. In a few cities brick walls are more frequently used, furred on the inside and lathed and plastered. A few houses here and there have been built with hollow tile, stuccoed outside and plastered inside directly on the tile; and some experiments have been made in concrete houses, although nowhere yet has Edison's dream been realised.

COMPARATIVE COST DATA.

Although no exact cost data can be given at the present time on the foregoing material, the following figures are, however, given in order to indicate the relative costs of these materials based on present prices. As prices do not vary consistently, these figures may not hold good for very long. In certain localities where clay for tile-making is abundant the prices of tile would be cheap, and would indicate that this is the cheapest material to use. In other places where there is a good gravel supply right on the ground the relative cost of concrete would be reduced.

Assuming the cheapest construction, a wood framing, wood lathed and plastered on the inside and rough boarded and shingled on the outside, as our standard,

or 100 per cent., the relative costs of various houses would be as follows:—

	Per cent.
Wood framing, inside wood lathed and plastered, outside rough boarded and clap-boarded and painted.....	102
Wood framing, inside wood lathed and plastered, outside wire lathed and stuccoed	108½
6 in. concrete wall, inside furred and lathed and plastered, outside rubbed smooth	112
6 in. concrete wall, inside furred and lathed and plastered, outside stuccoed	116
8 in. hollow tile, insided plastered direct, outside stuccoed	111
8 in. brick wall, inside furred and lathed and plastered	115½
Wood framing, veneered with 4 in. brick, inside lathed and plastered	113

The chief roofing materials in use at the present time are wood shingles, asphalted felt shingles, asbestos shingles, slate, tile, "ready" roofings, tar and gravel built-up roofings, and tin roofings, the last three being used for flat roofs.

The cedar shingle, while still in common use, is slowly giving place to other materials. Many cities have legislated against it, and as the asphalted felt shingle, which is a good deal more fireproof, can be put on for about the same price, it is coming into general use. The cedar shingle is a dangerous fire risk, on account of the ease with which conflagrations spread by burning shingles flying through the air.

The asbestos shingle costs about twice as much, and is not so commonly used, although it makes a more permanent roofing.

The cost of tile and slate roofing is so much higher than the above that they have to be left out of consideration in workmen's houses.

FLAT ROOFS.

The flat roof covered with a five-ply built-up tar and gravel roofing is considerably cheaper than any of the preceding, but its appearance is generally objected to. In our large cities it is used extensively, and, on account of the low first cost and maintenance expense, it is very favourably regarded. Various types of ready roofing are used as substitutes for built-up roofs, but, on account of the difficulty in making good water-tight joints, they have not come into general favour. The tin-covered roof is being used less and less. It is more expensive than the built-up roof and requires frequent repainting and maintenance. One of the stock objections to the flat roof is that it is hot, but, as a matter of fact, this is not the case. The flat roof should have underneath it a ceiling furred down to give a hollow space of at least 18 inches between the ceiling and the roof surface. This dead air space provides a proper insulation against heat and cold, and is actually cooler in summer and warmer in winter than a pitched roof in which the ceilings of the bedrooms are sloping.

The objection to the flat roof on account of its lack of architectural pretensions is not an insuperable one. Conditions of this sort should be a challenge to architects to overcome.

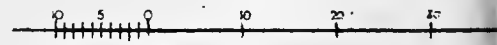
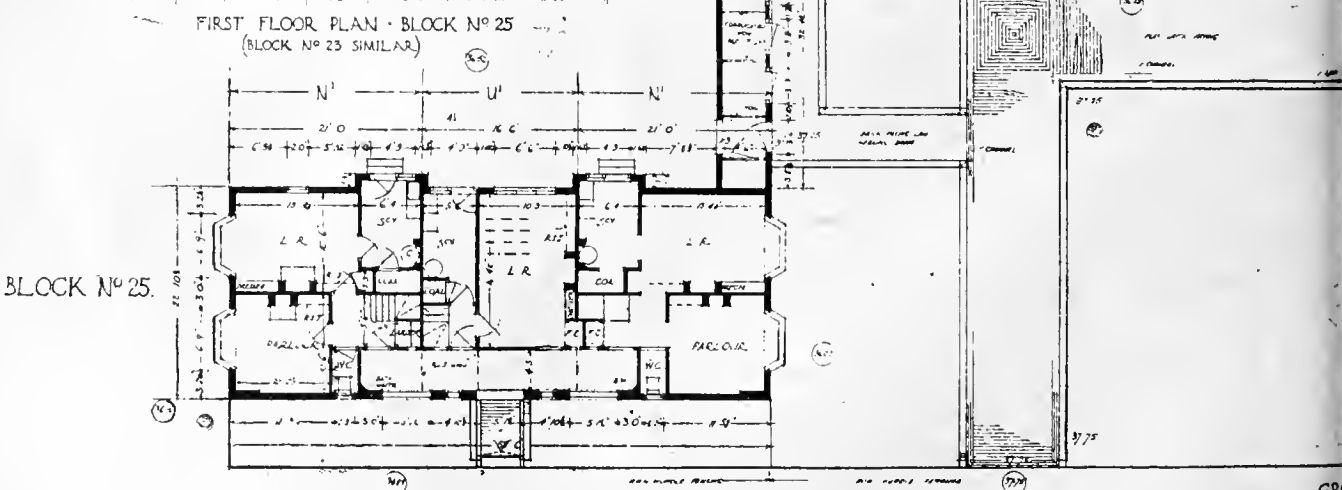
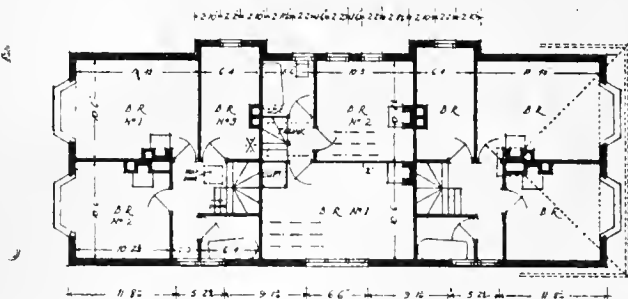
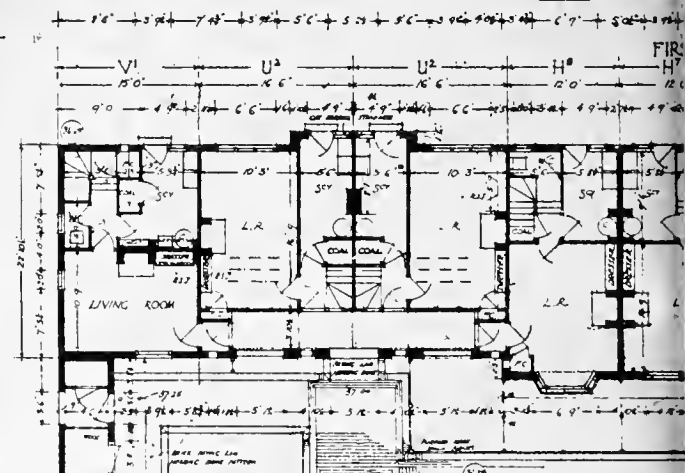
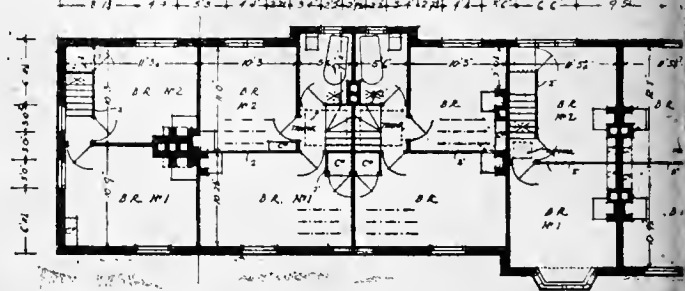
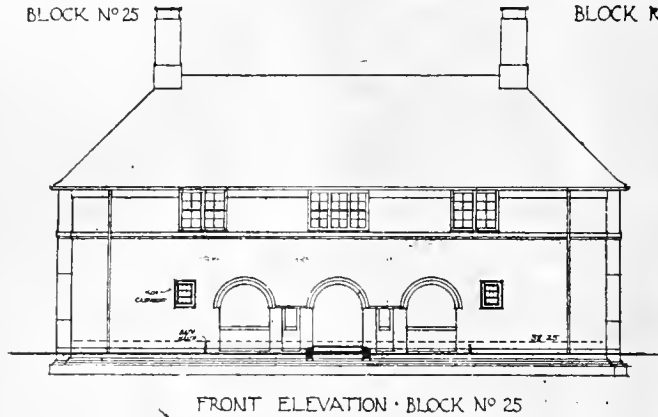
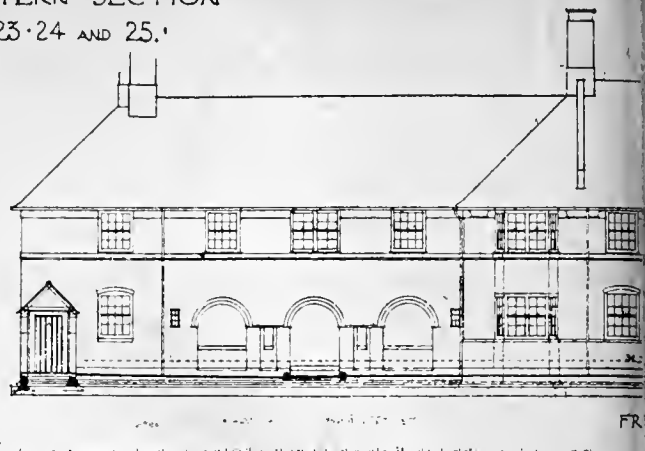
Wood lath and plastering continue to be the customary method of finishing walls and ceilings. Plaster board covered with a finish coat costs very little more, and, where speed is essential, can be put on and dried out much more quickly. The various wall boards and composition boards offered as substitutes for plastering are not satisfactory for industrial houses. The cost per square foot is low, but the waste in cutting is very great unless specially ordered, and the result is not so permanent.

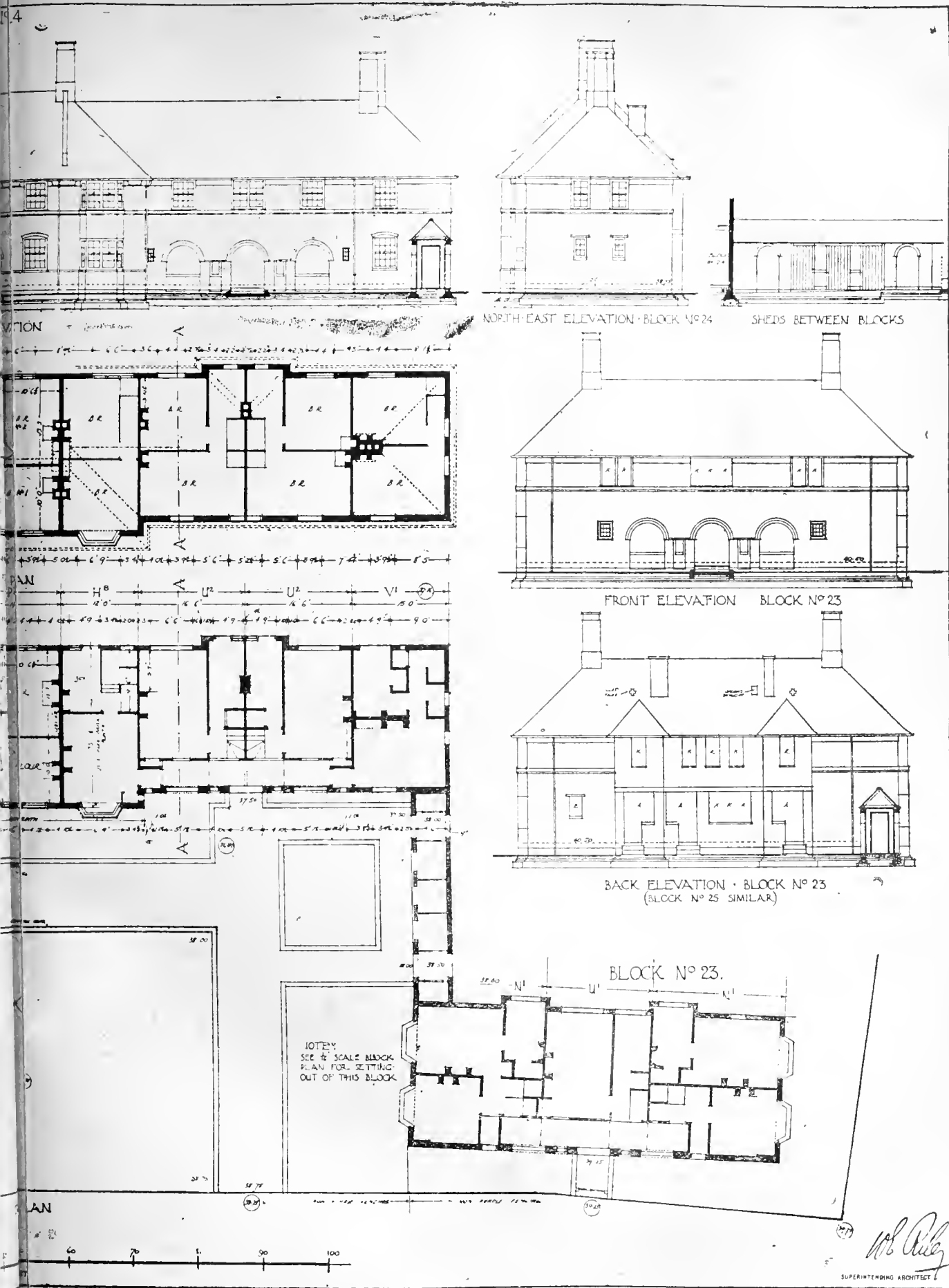
Interior woodwork is best stained and varnished and not painted, as it is less easily soiled.

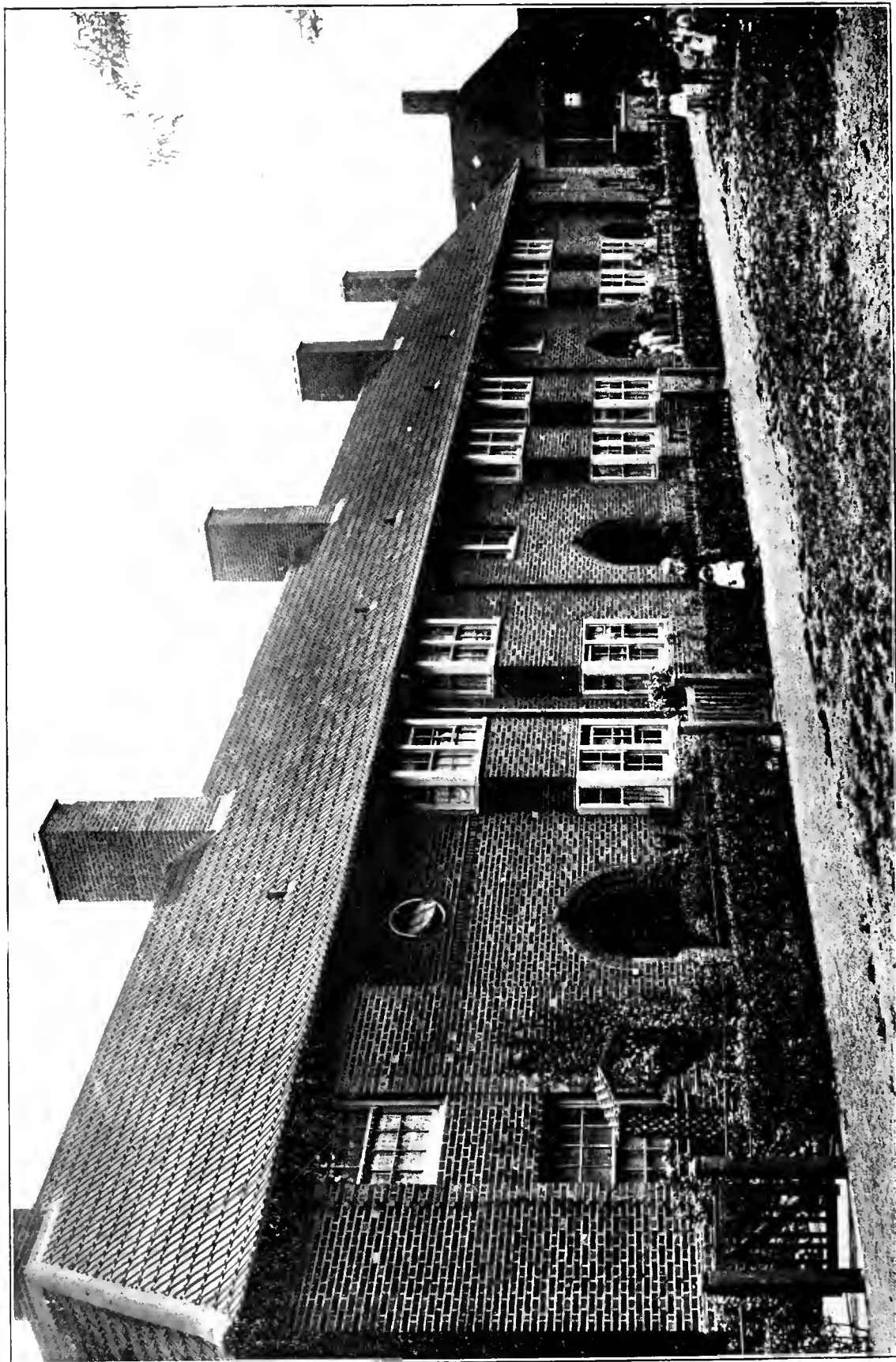
Wall papers add nothing to the comfort or health of the tenant, but do add to the rent he has to pay, besides proving a harbourage for vermin. Kitchen and bathroom walls are best painted with lead and oil, while many owners leave all other rooms bare or tint them with cold-water paint.

(Continued on page 77.)

• L.C.C. OLD OAK ESTATE • WESTERN SECTION •
• SECOND CONTRACT • BLOCKS N^os 23, 24 AND 25.

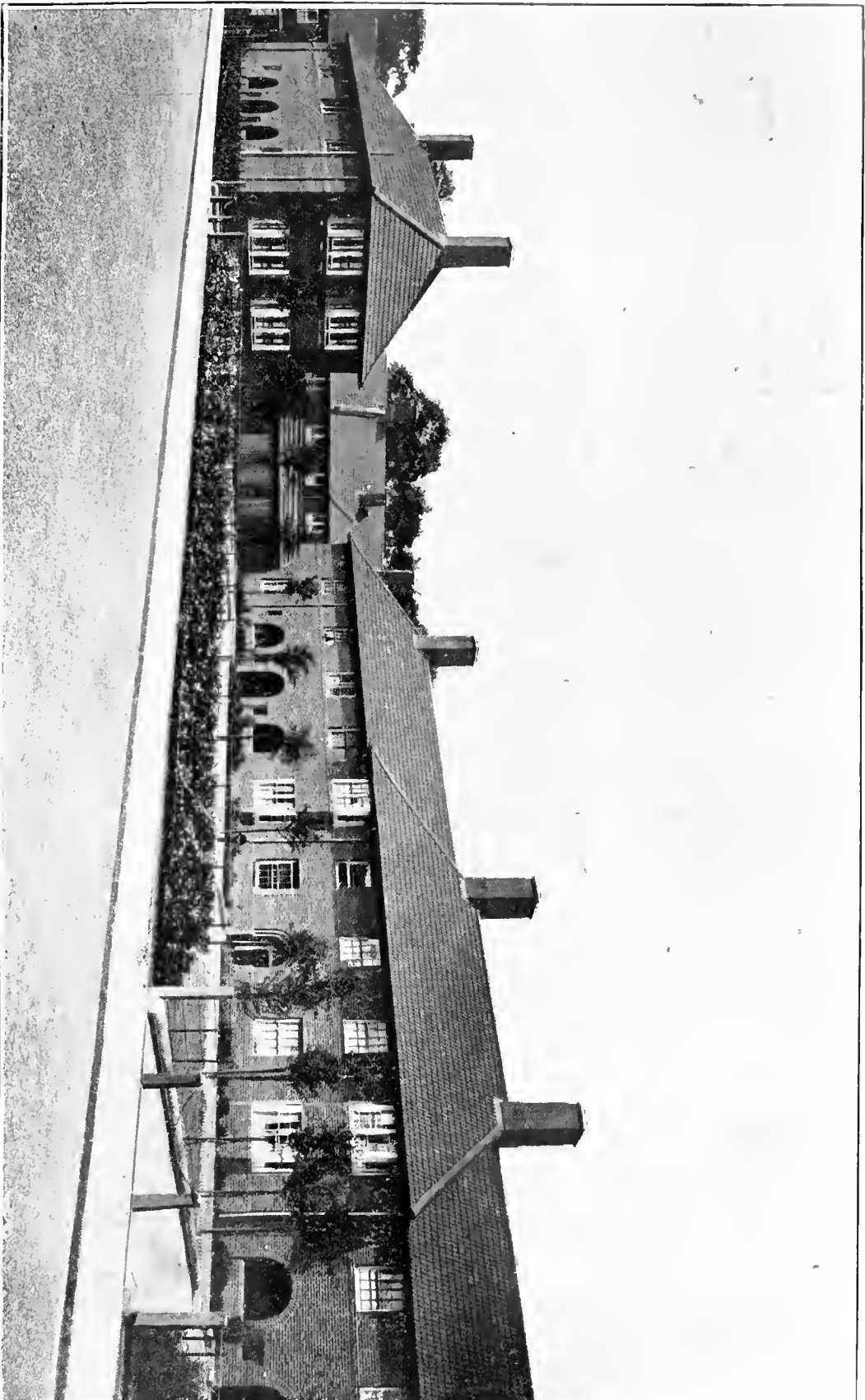






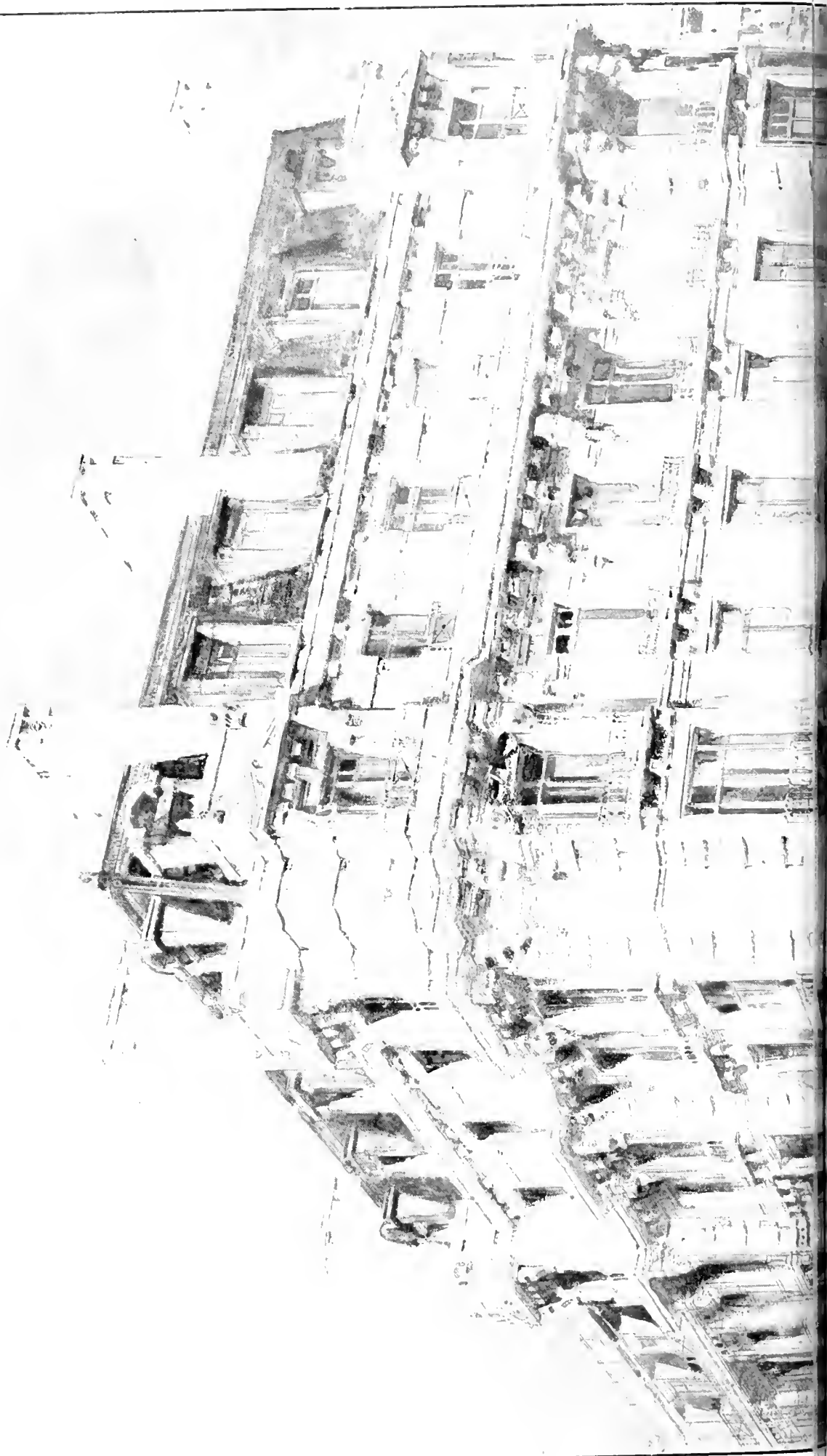
LONDON COUNTY COUNCIL'S BETTER HOUSING FOR THE WORKING CLASSES.
THE OLD OAK ESTATE, HAMMERSMITH.—Mr. W. E. RILEY, F.R.I.B.A., Superintending Architect, L.C.C.

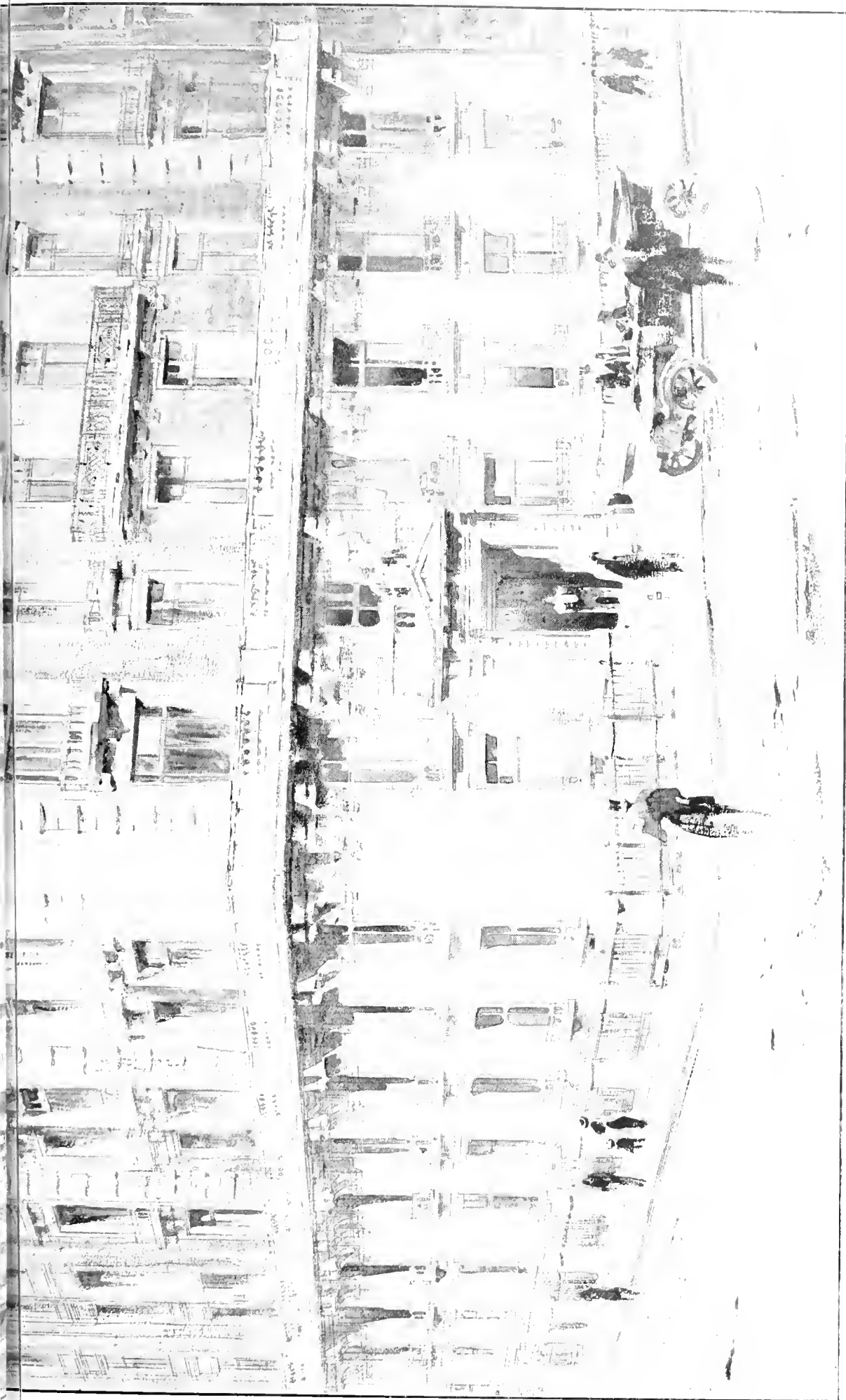
THE BUILDING NEWS, JANUARY 23, 1918.



LONDON COUNTY COUNCIL'S BETTER HOUSING FOR THE WORKING CLASSES.
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PROPOSED FLATS DE LUNE, PORTLAND PLACE, LONDON. W.—Messrs. T. E. COLCUTT and STANLEY HAMP. Architects.

Our Illustrations.

FLATS-DE-LUXE, PORTLAND PLACE, W.

These proposed buildings formed, on the eve of the war, part of a larger scheme for the erection of flats on the lines of modern Parisian buildings of this character. In this particular block each flat will consist of the following accommodation:—Hall, dining-room, drawing-room, boudoir, five bedrooms, three servants' rooms, and the usual kitchen offices. All reception rooms open by means of folding glass doors to the hall, which is central, so that all rooms can be used en suite. The bathrooms are arranged between bedrooms, so that they can be entered by small connecting corridors without passing into the main corridor. The servants' quarters are so planned that they are away from the more important rooms, and are self-contained—their bedrooms being obtained by a mezzanine floor to the kitchen and offices. There is a central staircase leading from spacious entrance hall on ground floor to the upper floors, with passenger lift adjoining. Beneath the central court in rear is arranged heating apparatus and necessary boilers for supply of hot water, heating, etc., to all flats. The structure of the building is designed in ferro-concrete. The external facades to be Portland stone, and the internal areas and courts with the Suffolk brick. The architects are Messrs. T. E. Collcutt, F.R.I.B.A., and Stanley Hamp, A.R.I.B.A., of Bloomsbury Square, W.C.

THE LONDON COUNTY COUNCIL'S BETTER HOUSING FOR THE WORKING CLASSES.

THE OLD OAK ESTATE, HAMMERSMITH.

Particulars of the two single-page illustrations of these dwellings, and of the double-page of plans, etc., will be found in our first article on p. 62. The work was designed by and carried out under the direction of Mr. W. E. Riley, F.R.I.B.A., the Superintending Architect to the London County Council.

Correspondence.

BRITISH PRISONERS OF WAR BOOK SCHEME.

To the Editor of THE BUILDING NEWS.

Sir,—For some time past the Society has been supplying books from its technical library to British prisoners of war who are pursuing their studies in certain subjects, such books being sent through the committee of which Sir Alfred T. Davies, of the Board of Education, is chairman. An interesting development so far as the Society is concerned is the receipt of a communication from a prisoner of war in Germany expressing the thanks of himself and of his companions for the books, which have evidently been of much service.

There must be many architects who have duplicate or spare copies of architectural and technical books, and if they would care to send them to me for the purpose stated I shall be very pleased to see that they are dispatched to the proper quarter. It would add to the value of the gift and the pleasure of the recipient if the donor's name is inscribed on the fly-leaf of any books presented.

—Yours faithfully,

C. McARTHUR BUTLER.

Secretary of the Society of Architects.
28, Bedford Square, London, W.C.

A third edition of Mr. A. W. Shelton's excellent pamphlet, "Housing: Facts and Figures for Trade Unionists and Workers," is published by the Co-operative Printing Society, Limited, Tudor Street, E.C. To our previous eulogy of this impartial and informative book we can only add that no better service could be done by employers and others than the purchase and distribution of the pamphlet among the workers who need, above all things, to know just now who are their real friends in regard to this and a good many other kindred matters.

PROBLEMS IN AMERICAN INDUSTRIAL HOUSING.

(Continued from page 64.)

ARCHITECTURAL DESIGN.

In attempting to discuss architectural design we are treading upon difficult ground. No laws or limitations as to style can be laid down, and matters of taste cannot be discussed here. The designer of the workman's house is usually working under very strict limits of cost. It is his duty first of all to plan for the comfort, safety, and health of the tenant, and if after this is done he has still some money left for architectural adornment, the money spent in this way is money well spent.

Any attempt to beautify the elevation has to be paid for. Each dormer, every valley, each moulding, porch, or railing has to be reckoned up in dollars, and where it becomes a question of sacrificing necessary floor space or internal convenience for outside embellishments, the tenant's vote, if he were given a chance to exercise it, would almost invariably be for the internal necessities rather than the external luxuries.

In planning a house the square plan, bounded by straight lines, is the cheapest and most economical. As the plan changes from square to oblong, the ratio of walls to floor space increases, and with it the cost. Any departure from the right angle means increased labour and waste of material in cutting.

Porches should be so designed that they do not shut off sunlight from any room. In many row houses a continuous porch is built right across the front, with the result that sunlight never enters the front room on the ground floor. As sunlight is the greatest foe of disease germs, it will be seen what a detriment this is to the health of the inmate.

Valleys and dormers in a roof not only add to its cost, but to its maintenance, as these angles in the roof are the points where leaks first make their appearance.

No applied architectural ornament can equal the beauty or permanence of a careful planting of trees, shrubs, and vines. The plainest of houses suitably planted with quick-growing vines on permanent trellises, and with a good shade tree in front, will look far better than the most ornate building elevation and cost much less. In studying photographs of successful housing developments it will be seen that those which win the most general approval are those in which this feature has been given careful attention.

BENEFIT OF LARGE SCALE OPERATIONS.

Until quite recently small house construction has been entirely in the hands of the local builder, operating on a small scale. During the past year, however, with the institution of several large housing developments in which speed of construction and durability of workmanship were important essentials, large contracting organisations have taken up this class of work, so that the manufacturer can now get the same kind of service in his house construction as he has been accustomed to get in his plant construction contracts. A good deal of economy is always gained when a large number of houses are built at one time by one contractor. The money saved by purchasing direct from manufacturing firms in carload lots rather than in team-loads from a local dealer, the continuous employment of large gangs of men, the taking of cash discounts, and other economies practised by big contracting organisations are quite a help in reducing costs.

When the whole development is under the control of one responsible contractor the disappointments so often experienced of houses built but roads not finished or sewers not completed are avoided; the grade of workmanship is better and the work is finished promptly instead of being allowed to drag far beyond the scheduled contract time.

At a meeting of the council of the Kitchener Memorial Fund, held at the Mansion House last Friday, it was reported that the Dean and Chapter had offered a site on the main floor of St. Paul's Cathedral for the chapel which it is proposed to erect there in memory of Lord Kitchener.

HAMPSTEAD SELBORNE AND ARCHÆOLOGICAL SOCIETY.

ST. ALBANS ABBEY.

On January 12, at Stanfield House, Mr. E. W. Harvey Piper, for many years one of the sub-editors of this journal, lectured on St. Albans Abbey.

Tracing the history of the abbey from the building of the little church of wattle and mud on the site of the martyrdom of Britain's proto-martyr, Mr. Piper said that no monastery arose until 793, so that 490 years elapsed before King Offa, the second of Mercia, founded a Benedictine house by way of expiation. Thanks to the prestige conferred by the custody of the saint's bones and the miraculous cures wrought by the relics, the house flourished on the pilgrims' offerings, and the monastery obtained precedence over all other establishments in England.

Built largely of Roman bricks quarried at Verulamium, the Abbey Church was so often lengthened that it became one of the longest in the country, though of no great width. From time to time ambitious schemes of decoration and improvement were put in hand, but, from want of funds, they generally remained half executed. Between 793 and 1539 forty abbots reigned at St. Albans, and at the latter date the abbey and buildings were surrendered to Henry VIII. With the exception of the Gate House, afterwards the Grammar School, and the Water Gate, now the "Fighting Cocks" Inn, the monastic buildings were granted by the King to Sir Richard Lee, who utilised them as cheap materials for dwellings. A little later the church was sold for £400 to the townspeople, but it proved too large and expensive for them, so only the central part was devoted to worship, while the Lady Chapel was converted into a grammar school and was shut off by a public passage made through the retrochoir to provide a short cut from north to south in the town.

Three centuries of neglect brought the Abbey Church into a condition of dilapidation, and even ruin, from which it was rescued by three successive generations of restorers, whose zeal often outran their knowledge and discretion. For example, Lewis Cottingham, in the fifties of the nineteenth century, displayed the typical ignorance of his day, whereas Sir Gilbert Scott, often conservative to a fault, in the twenty years which preceded his death in 1878, evinced great constructional ability and resource in underpinning the central tower and in other work at the abbey. Then followed the tempestuous times of Sir Edmund Beckett, afterwards Lord Grimthorpe, who let himself loose on the abbey, and during a quarter of a century expended on it £140,000 of his own money in strengthening the fabric and reconstructing the western façade and the ends of the transepts. He also re-edified the Lady Chapel and undertook other work, the general effect of which was bitter condemnation, recrimination, and abuse. At the same time it was quite a mistake to suppose that as the result of all this the abbey no longer contains features of importance and interest.

By means of a plan, the architectural evolution of the abbey was traced from its building by Paul de Caen in 1077-93 to the works by Lord Grimthorpe, Sir Arthur Blomfield, and Oldrid Scott, after which the audience was taken round and through the edifice, aided by photographs taken before and after the restoration.

An illustration was given of the west front, bepatched by Abbot Wheathampstead, just as the lecturer recollected it in the seventies of last century, and of Beckett's crude design of 1877 from his autograph drawing, a design subsequently modified by an anonymous yet well paid ghost, who chose to remain in obscurity. Anyhow, as for the west front as now seen, it may be characterised as a passable example of a design for a prosperous Nonconformist chapel towards the close of the nineteenth century. There was a view of Beckett's window known as the "Five Sisters" in the south transept, which

justified his boast that he had provided the longest lancet window in England.

Photographs were shown of the south transept, choir, and Lady Chapel before, during, and since restoration, and Mr. Piper related how the haunches of the then mean slated roof were loaded with common or garden clay to keep it water tight; how here and there windows had been walled up to save the cost of reglazing; and how general was the condition of degradation.

Prominent features of the restored building were then discussed by Mr. Piper, who explained how lavishly Lord Grimthorpe in reaching his ends had expended the fortunes which he had inherited, married, and made. There were mediæval Goths and nineteenth century Vandals, and suggestive as were the contrasts between them, we were, however, indebted to the generous but self-opinionated Beckett for having soundly repaired the fabric, put in good foundations, and insisted on sufficiently thick and well bonded walls, coupled with honest workmanship. Had he not voluntarily come to the rescue it is improbable that the necessary funds would have been forthcoming.

If there were phases to be condemned, and there were many, such as the cloister buttresses and so-called Norman portal in the south nave aisle, huge exotic lancets, and destruction of the slype, with the inane and ignoble rose window of the north transept; yet, on the other hand, the partial rebuilding of the Lady Chapel and its internal panelling and carving were admirable, while the retro-choir had been successfully treated, and the much vexed west front, after all, was fair late Victorian work. Again, a plain and substantial oak roof of the nave had replaced a decayed deal ceiling, and the vista from west to east had been opened out by division and rearrangement of the organ. Formerly the church was short of light, and there were no windows in the western ends of the nave aisles, but some had now been, with great advantage, inserted.

After showing how, in his opinion, discoveries of worked masonry of distinct interest could be made, Mr. Piper turned to the magnificent reredos of William de Wallingford, completed in 1484; illustrated it as before and since the restoration; and compared it with the reredos at Winchester, to which he felt bound to award the palm as better in proportion and richer and more harmonious in arrangement and decoration.

Visiting the Saints' Chapel behind the reredos, Mr. Piper described the recovery, in 1872, from walling in the retrochoir of the lost fragments of St. Alban's shrine, the piecing of them together, and re-erection on the original site. This was followed by the discovery of the shrine of St. Amphibalus, in every way an inferior production, now built up at the east end of the north choir aisle.

Views were given of the early fourteenth century Lady Chapel, as already stated at one time used as a grammar school, and then with some impressive words upon the Abbey generally, upon the vicissitudes which it has known, upon its suggestiveness after so long a period, upon the marks left upon it by generations of workers and worshippers, and upon its encyclopædic and representative character in architecture from the Norman Conquest downwards, Mr. Piper brought his address to a close.

A vote of thanks to Mr. Piper was moved by Mr. William Woodward, F.R.I.B.A., and cordially carried.

GUNITE PROTECTION FOR STEEL BUILDINGS.

Gunite, the product of the cement gun, has proved eminently satisfactory as a protective coating for steel. It not only acts as a fire-proofing material, but it serves to prevent corrosion and rusting. Owing to the dense nature of the material, gunite has special advantage over hand-placed concrete, and, at the same time, is more adherent, and in its placing requires less labour and fewer materials. Many buildings are now being constructed in America with exterior walls of gunite, reinforced with expanded metal or some special fabricated steel reinforcement. In buildings where there are corrosive gases,

gunite has been adopted in many instances because of its impervious properties and the protection which it affords to steel.

An instance of this kind where gunite proved useful is the plant of the Dominion Natural Gas Company, which is included among the many subsidiaries of the Cities' Service Corporation, of New York, which comprises many well-known public utilities owned by the Henry L. Doherty interests. The Dominion Natural Gas Company operates in the Tilbury, Ont., gas fields, in distributing natural gas from London to Hamilton.

In order to supply the large demand for this gas the company have built at Glenwood, Ont., a large plant, consisting of machine shops, gas pumping station, purifier building, together with offices, etc. These buildings were erected of corrugated, galvanised sheet steel, covering structural steel frames, and vary in size from 20 ft. by 30 ft. to 60 ft. by 170 ft.

GASES CORRODED STEEL.

It was soon found, however, that, owing to the presence in the raw gas of a considerable amount of sulphur, the corrugated steel corroded very rapidly, and no method of painting or other usual protection remained effective for any length of time. In addition to this, the buildings were very cold in winter and unbearably hot in summer.

In July, 1917, the Dominion Natural Gas Company requested the Burns Cement-Gun Construction Company, Toronto, to give them an opinion as to the practicability of covering their buildings with reinforced gunite, both inside and out, without the use of forms. After investigation, it was decided that this method would be the most practicable, and a contract was entered into with the Burns Cement-Gun Construction Company to proceed with the work.

POULTRY WIRE REINFORCEMENT.

The sides and roofs of the buildings were first covered with heavy poultry wire, stretched taut and fastened on the tie wires passing through holes punched in the galvanised iron, and tied inside the building round the structural steel members. Over this was shot a coating of gunite averaging two inches in thickness, consisting of one part Portland cement and three parts sharp sand. The material adhered perfectly to the building and set very hard within twenty-four hours; when set the material had the characteristic glossy waterproof finish of gunite, and on being struck with a hammer gives out a sharp, ringing sound, indicating the great density of the material obtained by this method of construction.

The Dominion Natural Gas Company have expressed great satisfaction with this work, which did not in any way interfere with the continued operation of their plant, and which, in addition to absolutely preventing any further corrosion, makes their buildings much warmer and still further reduces the fire risk.

URBAN HOUSING PROBLEMS.

A meeting of the Royal Statistical Society was held on Tuesday, January 15, at the Society's rooms, 9, Adelphi Terrace, London, when a paper was read by Mr. J. Calvert Spensley on "Urban Housing Problems." The author pointed to certain deficiencies in official statistics relating to the housing question, and suggested that the Government Departments concerned should publish year by year the number of houses erected and the number of empty houses (working-class and other), that the census returns should give the number of rooms in each area, and the districts where the residents are employed, and that some attempt should be made officially to ascertain the number of working-class population and the number of houses and rooms occupied by them.

In estimating the requirements for Greater London, he assumed that the working-class formed 75 per cent. of the total population, and occupied four rooms for every five persons, the remaining 25 per cent. occupying eight rooms for every five persons, or, together, one room per person. He put the increase of population between 1911 and 1921

at 400,000, and the amount of housing required before 1921 at 160,000 working-class and 140,000 other rooms, equivalent to 36,000 working-class and 17,500 other houses. This is equivalent to rather more than twice the production in the maximum year for which information is available, and would not be a very formidable task were not the conditions greatly changed. House building has declined from 27,174 houses in 1901 to 11,757 in 1910, 8,006 in 1912, 5,549 in 1915, and 3,642 in 1916—by far the lowest figure since the records were first taken in 1871. The author pointed out that the fall from 1901 to 1910 was consistent with well-recognised periods of building fluctuations, but that the fall since 1911 is serious.

The shortage of housing in certain working-class districts had become acute even before the war, and the only relief had been due to the erection of cottages and hutments for munition workers. The decline in house building in other towns is indicated by the fact that building plans were passed for £1,741,000 in the third quarter of 1909, and for only £33,590 in the third quarter of 1917—the rate of house building in England and Wales since March, 1917, being only 3 per cent. of what it was in 1909, in Scotland 1 per cent., and in Ireland 21 per cent. In considering the possible relief of overcrowding, an important modification was made in the figure usually adopted as representing the number of persons living in overcrowded conditions, namely, 758,000 persons living more than two per room in the County of London. This reckons children and adults as equal; but if children under 10 are taken as half an adult, and children under 5 are ignored, the adjusted figure becomes 326,000—still a serious number when its true meaning is appreciated.

The standard of illegal overcrowding is, however, so low that there appears to be little hope of any considerable alleviation in view of the existing law and circumstances. The work of special housing agencies, cheap locomotion and over-housing were other questions discussed in the paper, as well as the effect on rents of the increased cost of building, higher rates of interest, and various schemes of financial assistance.

COMPETITIONS.

MAIDSTONE.—The borough of Maidstone invites architects and others to submit designs for laying out an estate for 170 cottages. Premiums of £50, £30, and £20 are offered for the best three designs respectively. The assessor is Mr. H. V. Lanchester, in co-operation with the Housing Committee. Particulars may be had of the Town Clerk, 72, High Street, Maidstone, on and after February 1, on receipt of application enclosing a deposit of ten shillings, which will be returnable on receipt of a design or the return of the particulars within fourteen days. No date as yet is given by which designs must be sent in.

OBITUARY.

Colonel George Fletcher Otley Boughey, C.S.I., late Royal Engineers, died on Thursday last at the age of 74. Commissioned to the Royal Engineers in 1862, he went to India three years later, and within a few months had his first war experience in the Bhutan expedition of 1865-6, receiving the medal and clasp. He joined the Public Works Department in 1869; and, apart from service in the Afghan War of 1878-80, was continuously in the Railway Branch until his retirement some twenty years ago. He was successively executive engineer of the Rajputana Railway; deputy consulting engineer for guaranteed railways in the Lucknow circle; manager of the Indus Valley and Kandahar line, then of the Eastern Bengal State Railway for seven years, and finally of the most important State-worked line, the North-Western, for five years. He strongly favoured the transfer to State working of the Government-owned systems now managed by companies. Colonel Boughey married in 1872 a daughter of the late Lieutenant-Colonel W. Stuart Menteith, and had one son and three daughters.

Building Intelligence.

GLASGOW.—The tower of St. Enoch's United Free Church, situated at the gusset formed by the junction of Argyle Street and Old Dumbarton Road, Glasgow, is reported to be in an unsatisfactory condition, and the question has arisen whether, in the interests of safety, the structure should be taken down. In view of defects which have developed in the masonry the Dean of Guild Court has authorised certain work to be carried out at once in the public interest, and has also granted warrant for the removal of the tower or of any portion of it as may be considered necessary. In the meantime the Dean of Guild has prohibited the occupation of the church, and in a report prepared on the instructions of the Court, Mr. John Keppie, architect, states that the tower is a high one, with comparatively few apertures in the lower portions, and it is to the crushing weight of this great height that he attributes the present defects.

PROFESSIONAL AND TRADE SOCIETIES.

ARCHITECTURAL ASSOCIATION OF IRELAND.—Mr. W. Kaye Parry, F.R.I.A.I., delivered a lecture on "The Architect's A.B.C.," at a meeting of the Architectural Association of Ireland held at South Frederick Lane, Dublin, on January 10. Mr. Edwin Bradbury (president) occupied the chair. Mr. Kaye Parry, in the course of his lecture, dealt with the organisation and management of an architect's office, emphasising the necessity for the cultivation of modern methods of work and the adoption of a businesslike system. He explained how correspondence could be best handled; the registration of letters received and despatched and the filing of letters. He also outlined the best methods of using diaries and keeping records of work done. Proceeding, he described the classification and filing of catalogues so as to facilitate future reference; and went on to deal with the preparation of drawings and the best method of keeping them so that they could be easily found. Having indicated the simplest way of keeping all the papers connected with works in progress, he concluded that all these details constituted the A.B.C. of an architect's work, and that order and system were invaluable if success were to be achieved. A vote of thanks was proposed by Mr. R. M. Butler and seconded by Messrs. Leask and Lynes.

SOCIETY OF ANTIQUARIES OF SCOTLAND.—At the monthly meeting of the Society of Antiquaries of Scotland, held in the Royal Society's Rooms, 24, George Street, last week, in the first paper Dr. George Macdonald, C.B., F.S.A., Scot., described a Romano-British relief, to which his attention had recently been called, built into the garden wall at Hailes House, Colinton. This carving undoubtedly represented the mysterious triad "Mother Goddesses," whose worship was so popular in certain districts during the earliest centuries of the Christian era. In endeavouring to account for the presence of the stone at Colinton, it was stated that a Roman altar dedicated to this triad was found at Cramond in the beginning of the eighteenth century, but has since disappeared. No trace whatever of any Roman station or fort has ever been discovered in the neighbourhood of Colinton, and Dr. Macdonald considered that there was a strong probability that the relief originally came from Cramond. Additional strength was given to his suggestion by the fact that the inscription on the Cramond altar bore that it was dedicated to the "Matres Alatervæ" and the "Matres Campestres" by the first cohort of the Tungrian auxiliaries, and, though the precise limits of the district whence this regiment was recruited are somewhat doubtful, they certainly included a considerable stretch of the Rhine, the very neighbourhood where the goddesses who now preside over the garden at Colinton would be peculiarly at home. To troops from this region, also, the attribute of the grapes would be singularly appropriate. Sir James Balfour Paul, C.V.O., LL.D., F.S.A., Scot., read a

paper on "Four Ancient Scottish Standards, with a detailed description of the recently discovered Marchmont Standard." Evidence points to the last mentioned flag being that of a Lord Warden of the Marches, whose duty it was to "keep rule" on the Borders, and it may have belonged either to Sir Patrick Home, of Polwarth, who was Warden in 1591, or to some of his kinsmen, the Lords Home, who held that office at intervals all through the sixteenth century. There is reason to believe that its probable date may have been about 1550. At all events, it is an old and exceedingly fine flag.—The last paper described an excavation of an artificial mound at Kilsnuck, Bogside, in the parish of Irvine, Ayrshire, made by Mr. G. P. H. Watson, F.S.A. Scot., from which numerous pieces of mediæval pottery were recovered. Mr. A. O. Curle, Director of the Museum, described the pottery, and concluded that it belonged to the end of the thirteenth or the beginning of the fourteenth century.

THE NATIONAL FEDERATION OF BUILDING TRADES EMPLOYERS OF GREAT BRITAIN AND IRELAND.—The annual general meeting of this Federation will be held in the Connaught Rooms, Great Queen Street, London, W.C.2, on Wednesday, January 30, 1918, at 10.30 o'clock in the forenoon, to consider the following business:—Agenda: 1. Notice convening the meeting. 2. (a) Minutes of half-yearly meeting, held July 25, 1917, and any business arising; (b) minutes of special general meeting held December 12, 1917, and any business arising. 3. Annual report (including report of representatives on the Employers' Parliamentary Council). 4. Federation finance: (a) Accounts and balance-sheet and auditors' report. (b) Belgian Fund; report of council. (c) Subscription for 1918. Recommendation by the council; also resolution sent forward by the Northern Counties Federation:—"That the National Federation be recommended to make provision from revenue for the contemplated deficit for 1918. Further, that formal notice be given to rescind the decision arrived at in December to the contrary." And any recommendation of the council hereon. Consider any recommendations from yesterday's councils on the following matters, and resolve thereon:—5. New rules; formal adoption. 6. Further steps to be taken in regard to (a) a recent failure to conform to the decision of a Conciliation Board; (b) the action of certain employers in setting on men from strike districts. 7. Form of contract; the report of the Contract Committee. 8. The Federation trade mark, and the future use thereof. 9. Report of Housing Committee. 10. Report of Conference re inter-relations and the proposal to form a National Joint Committee of Building Trades Employers. 11. Any other matters. 12. Announcement of elections by Federations for new Executive Council. 13. To receive nominations to the National Board of Conciliation, the National Demarcation Committee; also to the N.A.O.P. Joint Committee of Appeal, to take office in March and May next, and make an election. 14. Report of new Executive Council, including recommendations for election of president and officers. 15. Election of president and officers. 16. Next half-yearly meeting. 17. Any other business which may be presented by the president.

A project for erecting a National Labour Institute in London was considered at a joint Trade Union and Labour Party conference at Nottingham.

The Corporation of Birmingham have authorised the Free Libraries Committee to establish a commercial library, and to proceed with the necessary work, at an estimated cost of £1,500.

We regret to record the death on January 14, at 15, Tavistock Street, W.C.1, of pneumonia following influenza, of Ruth Morrish, only child of the late Lewis F. Day and Mrs. Day. She was interred at Highgate Cemetery on Friday last.

Mr. Frank Brangwyn, R.A., has been elected President of the Senefelder Club in succession to Mr. Joseph Pennell, who is now in America. The eighth exhibition of original lithographs by members of the club will be opened on Saturday, January 26, at the Leicester Galleries, Leicester Square.

Our Office Table.

Through the use of common salt of a coarse grade it is said to be possible to increase the amount of potash extracted from cement rock, thus securing a saving of potash that was hitherto going to waste. As a result of the use of this common salt one works in America, it is alleged, has increased its output of potash dust by approximately 25 tons per day. Of this quantity 10 per cent. is said to be pure potash. The salt is mixed with the cement stone and other raw product used in the manufacture of lime, and these are then ground up in a mixer and burnt. The burning process eliminates the salt and potash in the rock.

Recent issues of more than average interest to our own readers by Messrs. E. and F. N. Spon, Ltd., 57, Haymarket, include a fifth edition at 1s. 6d., post free 1s. 9d., of "Hints on Draughtsmanship," by G. W. Tuxford, architect, revised to date. Also a second edition of "Warming Buildings by Hot Water" (10s. net), by Frederick W. Dye, M.R.I., an old contributor to our own columns, a work which at once took front rank amongst those on its subject when first published. It is brought thoroughly up to date, and contains 159 illustrations. Part III. is also to hand of "Building Construction and Drawing," by Richard B. Daton (3s. net, post free 3s. 2d.), which continues the author's successful efforts in the preceding parts to solve the difficulties of the young student in working with plan and specification.

The Building Acts Committee has extended for another year the period of office of the undermentioned district surveyors who have passed the retiring age limit—Mr. F. Hammond (district of Hampstead), Mr. H. Lovegrove (district of Islington, South, and Shoreditch), and Mr. F. W. Hamilton (district of Paddington). It has reappointed for another year Mr. J. Goodchild, interim district surveyor for the district of Islington, North, and Mr. A. W. Tanner, interim district surveyor for the district of St. George-in-the-East. These two officials have passed the retiring age limit, but their services have been retained for several years past in a temporary capacity. It has consented under Section 142 of the London Building Act, 1894, to the appointment of deputy district surveyors in ten cases.

Count Hertling appeared before the Prussian Upper House on the 15th inst. for the first time as Premier, making a short speech on the Housing Bill, in which he pointed out that the conditions which have grown up round large German towns and industrial centres were such as might fill them with serious anxiety, real pain, and occasionally horror. Not only had the maintenance of old houses in a state of repair been impeded, and an increase of house building become almost impossible, but they desired to provide homes for returning soldiers which were adequate, healthy, and satisfactory. Herr Dernburg said that the terrible conditions prevailing in large towns must be abolished. The decline of births was terrible, and the mortality among children under twelve months was still worse.

Mr. Clutton Brock, in his concluding lecture on Artistic Debauchery and its Cure at the Edinburgh College of Art last Thursday, insisted on the necessity for a clear division between functional beauty—as in a motor-car—and the beauty of expression. With regard to the prevalence of ornament, often used to conceal bad design and workmanship, we were in the position of the drunkard who could not pass a public-house. Here we required to take a pledge. We had to demand in things made by machinery perfect plainness, and would find, besides an improved sense of design, a desire for real expressive ornament. In the course of the discussion, it was suggested that the exclusion of machine-made ornament in wall paper, with completely plain surfaces in all the rooms, might cause monotony, to which Mr. Brock replied that complete sobriety would appear monotonous to the habitual drunkard.

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120, Bunhill Row, London, E.C.**TENDERS.**

*Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender; it adds to the value of the information.

DUBLIN.—For erection of houses for the working classes on the McCaffrey estate, in the James's Street area, for the corporation:—
L. Monks, Kingstown, about £78,000 (recommended for acceptance.)

DUBLIN.—For erection of houses at St. James's Walk, for the corporation:—
Hull and Co. .. £21,000 0 0
(Recommended for acceptance.)

HORSHAM.—For school works, for the West Sussex Education Committee. Accepted tenders:—
Horsham Denne Road Council School, renovations, W. F. Sendall and Co., £5 12s.
Horsham East Parade Council School, renovations, W. F. Sendall and Co., £27 12s.

LONDON COUNTY COUNCIL.—Tenders accepted:—
Bethnal Green, N.E.—Chisendale Road—re-tubing boiler, Binns and Speight, Ltd. .. £39 6 0
Camberwell, N.—Southampton Street—covering boilers and pipes, J. W. Kitson and Co. .. 53 0 0
Deptford.—Clyde Street—covering boilers and pipes, J. W. Kitson and Co. .. 85 12 6
Gordon House Girls' Home.—Erecting buttresses, G. W. Beattie .. 167 0 0
Hackney, C.—Hackney Downs.—New kitchen range, R. H. and J. Pearson, Ltd., .. 60 0 0
Islington, E.—Highbury Industrial School—removing brickwork, setting of boiler, R. H. and J. Pearson, Ltd., .. 60 0 0
St. Pancras, W.—Haverstock Hill—covering boilers and pipes, J. W. Kitson and Co. .. 65 0 0
Also accepted a tender, submitted by J. and C. Bowyer, Limited, amounting to £895, for making good damage done to a technical institute.

MANCHESTER.—Painting Webster Street Municipal School, for the Education Committee:—
A. H. Kay (accepted).

PLYMOUTH.—For repairs to caretaker's cottage, Devil's Point, for the corporation:—
E. Porter (accepted) .. £88 15 6

SHEFFIELD.—Tenders accepted by the City Council:—Construction of penstock and flushing chamber, E. Taylor, Ltd. Oil storage and measuring system, with pumps, piping, etc., S. F. Bowser and Co.

WEST SLEETHURN (DURHAM).—For alterations at the West Sleethurn sewage works, for the Brandon Urban District Council:—

Walton, T. .. £270 0 0
Wood, I. and R. .. 263 14 4
Armstrong, J. H., Esq. ..
Winning* .. 250 0 0
(*Accepted.)

WEYMOUTH.—For the supply and fixing of a convenience at the rear of the Crown Hotel, for the town council:—

Twyford, Ltd., Stoke-on-Trent .. £27 6 6
Oates and Green, Ltd., Halifax .. 26 0 0
Shanks and Co., Ltd., London .. 24 0 3
(accepted)

WEYMOUTH.—For rethatching eight shelters in the Alexandra Gardens, for the town council:—
F. Paul (accepted) .. £129 15 0

LIST OF TENDERS OPEN.**COMPETITIONS.**

No Date.—Designs are invited by the Borough of Maidstone for laying out an estate of 150 cottages. Premiums offered of £50, £30, and £20 for the best three designs. Assessor, Mr. H. V. Lancaster. The particulars may be had of the Town Clerk, 72, High Street, Maidstone, by enclosing a deposit of 10s., returnable on receipt of design, or the return of the particulars within fourteen days.

Jan. 31.—Designs are invited for four specified types of cottages suitable for the industrial classes. A competition, under the charge of the Royal Institute of British Architects and allied societies, will be held in each of the six areas mentioned below. Premiums of £100 and £50 for the best designs of each of three types, and £50 and £30 for the fourth, will be awarded in each competition. Designs must be submitted in accordance with the conditions not later than January 31. Copies of the conditions may be obtained from the following:—Home Counties Area: The Secretary, Royal Institute of British Architects, 9, Conduit Street, London, W.1; Northern Area: Mr. H. A. Hicks, hon. sec., Northern Architectural Society, 6, Higham Place, Newcastle-on-Tyne; Manchester and Liverpool Area: Mr. Isaac Taylor, hon. sec., Manchester Society of Architects, Mansfield Chambers, 17, St. Ann's Square, Manchester; Midland Area: Mr. A. Hale, hon. sec., Birmingham Architectural Association, 18, Bennett's Hill, Birmingham; South Wales Area: Mr. C. H. Kempthorne, hon. sec., South Wales Institute of Architects, Albert Chambers, High Street, Cardiff; South-west Area: Mr. A. J. Pinn, hon. sec., Devon and Exeter Architectural Society, 5, Bedford Circus, Exeter.

BUILDINGS.

Jan. 25-31.—Roof repairs and other work at the Newington Institution, Westmoreland Road, S.E.—For the Guardians of Southwark Union.—
A. P. S. Smith, Clerk, Guardians' Offices, Ufford Street, Blackfriars Road, S.E.

ENGINEERING.

March 30.—The Acting British Consul at Santiago reports that a decree has been issued calling for tenders for the improvement of the port of Antofagasta (Chile). By the terms of this decree the amount to be expended on this work must not exceed £1,700,000. Details may be obtained from the Port Commission Offices in Santiago, and copies are expected to be received shortly at the offices of the Chilean Legation in London, 22, Grosvenor Square, W.1. Tenders will be received up to 3 p.m. on March 30 by the Minister of Finance, Santiago.

PAINTING.

Feb. 6.—Painting at various places.—For the Lancashire and Yorkshire Railway.—Forms of tender and specification may be obtained on personal application at the Engineer's office, Hunt's Bank, Manchester. Tenders, endorsed "Tender for Painting," to R. C. Irwin, Secretary, Hunt's Bank, Manchester.

PLUMBING AND GLAZING.

Jan. 21.—Execution of general contractors' and plumbers' work that may be required in connection with the drainage of houses and other premises (one year, ending March 31, 1919).—For the Manchester Corporation.—Forms of tender, general conditions, and specifications for each of the three districts of the city may be obtained on application to the Superintendent of the Sanitary Department, Drainage Branch, Civic Buildings, Mount Street, Manchester, on payment of £1 is. for each of the districts.—Sealed tenders, to the Chairman of the Drainage Sub-Committee, received at the Sanitary Department, Drainage Branch.

SANITARY.

Jan. 25.—Construction of about 140 yards of 12 in. stoneware and 90 yards of 12 in. cast-iron pipe sewers, with manholes and other appurtenances, near Knowles Brook, Chequer-bent, Lanes.—For the Westthorpe Urban District Council.—J. Dickinson, Clerk, Town Hall, Westthorpe.

Jan. 28.—Reconstruction of about 407 yards run of the Golders Green and Temple Fortune main outfall sewer, situated principally in Golders Manor Drive, etc.; also for a new surface-water sewer from Hall Lane to near the Midland Railway.—For the Hendon Urban District Council.—Sealed tenders to be addressed to the Chairman of the Council.

CHIPS.

Captain Waude Thompson, borough surveyor of Mansfield, has been wounded, and is now in hospital at Manchester.

Mr. S. F. Miller, assistant surveyor to the Burton-on-Trent Corporation, has had his salary raised from £180 to £200 per annum.

On February 20 Mr. Maurice B. Adams, F.R.I.B.A., is to read a paper before the Royal Society of Arts on "Picturesque Architecture." Sir Aston Webb will take the chair at 4.30 p.m.

Mr. William Walley, of Leek, Staffs, land surveyor, left £100 each to the National Lifeboat Institution and Dr. Barnardo's Homes, and £1,600 among five local charities out of a total of £11,865.

The next ordinary general meeting of the Surveyors' Institution will be held on Monday, February 25, when Captain David Bowen will read a paper entitled "The Effect of Taxation on the Development of Mineral Estates."

Mr. A. Virgoe Buckland, surveyor (of Messrs. Buckland and Browne, 8, Frederick's Place, Old Jewry, E.C.), has been appointed surveyor to the Cordwainers' Company in succession to the late Mr. Howard Chatfield Clarke.

Notice has been given by the Corporation of Birmingham of their intention to carry out a town planning scheme for Yardley, Acocks Green, Sparkhill, Sparkbrook, Balsall Heath, Edgbaston, Selly Oak, Moseley, King's Heath, and King's Norton.

The Government have notified the Lincoln Corporation that they will erect 300 houses at Lincoln on a site chosen by the council, the Government to provide the labour, material, and the money. The houses are to be laid out on garden suburb principles with twelve dwellings to the acre.

The amount of stone which local authorities are allotted this year, with the approval of the Road Stone Control Committee, is about two-thirds of that used on the average in former years. The control only extends to the home quarries, and does not apply to the Guernsey quarries or to local quarries.

Professor Petrie, lecturing before the Royal Institution last week, said it was his duty to see that everything of historical interest in Palestine and Mesopotamia was not wiped out by the changes that must take place when the war was over. The Government, or the people, should set some definite organisation on foot to preserve the historical monuments. If Jerusalem were to be kept as a jewel of the past it should never be allowed to develop into a mere commercial modern town, but be kept as a city to be visited by all and appropriated by none.

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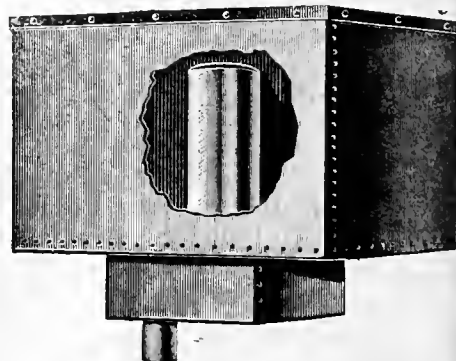
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OUR ILLUSTRATIONS.

The London County Council Better Housing for the Working Classes. Norbury Estate, Croydon.

Strand, W.C.2.

Plans, sections, elevations, and two views. Mr. W. E. Riley, F.R.I.B.A., Superintending Architect to the London County Council, Architect.
Reredos and Altar Rails, Tutbury Church, Burton-on-Trent. Mr. Cecil G. Hare, Architect.
Stowell Park, Gloucestershire. The Winter Garden, South Terrace, for the Earl of Eldon. Mr. Sydney J. Tatchell, F.R.I.B.A., Architect.

Currente Calamo.

The Memorandum of the Local Government Board for the use of local authorities with respect to the provision and arrangement of houses for the working classes, with plans, issued in March, 1913, has undergone some revision. It will be placed on sale, so that copies may shortly be obtained from his Majesty's Stationery Office, Imperial House, Kingsway, W.C.2, either directly or through any bookseller. The self-contained house is the type required, and it is suggested that the houses should be capable of being maintained in a state fit for habitation for at least sixty years, and that there should be a basis of twelve houses to the acre. Small front gardens should be provided, and in order to avoid a monotonous and depressing appearance the number of houses in a continuous row should not exceed eight or ten. In houses with three bedrooms on the first floor a 16ft. frontage is desirable. Further suggestions are a sunny aspect for the living-room, the bath on the ground floor, and a paved area at the back of the house. A store for food and one for fuel should be provided, but, except in special circumstances, cellars are not desirable. The erection of blocks of buildings containing a series of tenements should be avoided.

The special meeting of the Practice Standing Committee of the R.I.B.A. on December 17 last, a report of which we reproduce on another page from the R.I.B.A. Journal, was a very timely and useful one, and the information furnished thereat by Mr. John R. Walker, the Trade Commissioner of the United States Department of Commerce, was a very valuable contribution towards the solution of one of the already most pressing problems in connection with building, and one which is likely to become more and more urgent after the war. As Mr. H. F. Satchell, F.R.I.B.A., very truly pointed out in the discussion that followed, the English timber trade have utterly failed for some years to furnish the information architects and builders have wanted, and this lack of publicity will be followed, if they do not mend their ways, by just such a slump as

exists to-day in the Welsh slate industry, which has resulted from the God Almighty to a blackbeetle, attitude adopted by its members. The pamphlet Mr. Walker has promised to prepare will be a boon, and we shall be glad to help its wider circulation if we are favoured with an early copy. But more should follow. If Mr. Walker could arrange to send us weekly a brief but comprehensive list of American woods and prices, we shall be glad to include it in our general list, and it would be read with interest by all students and builders, who know as well as we do that any reliable list of British and other prices is impossible, and that the information vouchsafed in recent years in pre-war days was most unreliable.

The fall of a tree may do damage to adjoining buildings and so lead to business in the way of repairs. But it may also crash into those principles of legal liability so dear to our Courts; when their disentanglement will be found a more costly matter. The recent case of "Bruce v. Caulfield," just decided in the Court of Appeal shows how this may happen any day. It seemed a simple story, on the facts, but it soon got mixed up in the Law Courts. A poplar tree on defendant's land at Cookham was blown down in a gale and fell upon the roof of plaintiff's stable adjoining, thus causing much damage. The plaintiff sued in the County Court for £28 odd, claiming this from defendant on the three legal grounds of trespass, nuisance or negligence, alternatively. The judge held that the defendant must, or should, have known that his tree was dangerous in a high wind, and so found him liable for these damages alone, with all their intriguing possibilities. Then the defendant, full of fight, took the case up to a Divisional Court, where all three aspects of the matter were argued out all over again. Unluckily, there were only two judges, and, as these diametrically differed, this lap ended in a draw, and the County Court judgment held the field. But the defendant was a stayer, and so went on to the Court of Appeal, where three Lords Justices in the legal leisure of our crowded war-time went fully into this tale of a tree all over again. It was very good practice; the three great principles of trespass, nuisance, and negli-

gence are always full of meat for lawyers, and the avenues of argument are long and endless, mostly leading nowhere. The Court of Appeal, after a refreshing time amongst the precedents, would have nothing to do with the grounds of trespass or nuisance, and then, holding that there was no evidence of negligence on defendant's part as to this unlucky tree, allowed the appeal in his favour. Meanwhile, the plaintiff pays for the damage, which was certainly not his fault, nor was it his tree, and he also pays the costs in three Courts to settle the matter.

Evidence was forthcoming last Friday that the National Federation of Property Owners has assimilated most of the views of the National Federation of House Builders. Mr. Edwin Evans, L.C.C. (re-elected president), in his presidential address to the former federation at its annual conference at Southport, frankly acknowledged that he based his scheme for housing after the war largely on the experience of property managers and builders. Hence he objected, save in the last resort, to State or municipal house-building, and pointed out to both property owners and taxpayers that private enterprise builders had furnished economically in the past a supply of houses which frequently outran the demand. He warned builders against a future over-supply of houses, and urged the State neither to permit the holding up of land nor competition at the cost of the national or civic exchequer, with private enterprise duly controlled. His estimate was that a State loan, costing, for a short term, £1,250,000 a year, would enable builders to provide 250,000 houses, each having thus a State subsidy of £5 per annum. Until times became normal this loan should be at 3 per cent., and the rents based on 6 per cent. of the outlay. If he could preach to the working classes his text would be, "Buy your own houses." He had no sympathy with a conscription of capital, which he described as "A Rake's Progress."

The eighth exhibition of the Senefelder Club, which was opened on Saturday last at the Leicester Galleries, Leicester Square, embodies the latest that has been done for the advancement of artistic lithography. Actually this is the only

autographic method of multiplying drawings by surface printing, and materially differs from etching or wood engraving, in neither of which processes are the lines printed the real delineations of the artist, but only reproductions of them. In lithography the actual work of the draughtsman is not reproduced, but multiplied. The result so obtained, therefore, is personal in character, preserving as it does the handicraft or touch of the designer. Judging, however, from some of the exhibits shown, the artist not infrequently appears to disregard the possible beauties obtainable, and under cover of lithographic printing produces extravagant peculiarities, not only odd in subject but ungainly in effect. Whatever technical dexterity specialists may recognise in publications of this sort, it is more than doubtful whether such strange contributors merit the space accorded to them. It will be admitted that, anyhow, they serve to set off the more serious and capable specimens on view. These are by no means always the most finished and ambitious. For example, M. Forain's rough but dextrous sketch of "Conseil juridique," showing an advocate turning to consult the woman in the dock, is masterly in effect, truthfully catching the movement of the scene, and yet entirely set within the limits of the method employed. Capt. Spencer Pryse, M.C., is well to the fore with over a dozen prints, not one of which could have been spared without detriment to the exhibition. No. 69, "Interior of a Country House near Epemay," is marked by much breadth and a fine recognition of light, shade, and colour. The tall, well-drawn nurse, standing to the left of the open French casement, ready to minister to the surgeon's needs as he dresses a wounded soldier, makes for the charm of the subject. Nos. 71 and 73, both by the same hand, have colour pigments slightly introduced with taste and good effect. The first shows "The British Artillery Leaving Railhead, October, 1914," and the second is a grim and homely interior, where a mother-wife has just heard of the loss which her two startled girls must share—"Bad News" being the title. There is nothing maudlin about its treatment, which, though so sombre in tone, is brilliantly illuminated by the sun's reflected light at the cottage door. The purple of the widow's gown serves as a suggestion of contrast. Mr. E. M. Henderson, in 79 and 80, shows how to draw feline forms in a decorative manner, and the red-chalk prints of bathing scenes, 53 and 55, "Late Summer" and "Ebb-tide," by Mr. G. H. Shannon, A.R.A., are undoubtedly worthy of his skill. The foliage in 54 of "Autumn," where a woman sits at the foot of the tree while the man gathers the fruit, does, however, seem rather too much like the thatch of a pent roof. The scythes resting against the ladder have too much prominence in producing a strange if not ugly line, which evidently was pre-arranged as too precious to miss. Some will reckon that this composition suffers in consequence, though as a picture, perhaps, this one is the best of the three referred to.

Further correspondence respecting the transit traffic across Holland of sand, gravel and other material susceptible of employment as military supplies has been issued. The correspondence concludes with two despatches from Mr. Balfour to the Dutch Minister of Foreign Affairs. In the first Mr. Balfour points out that the Netherlands Government acknowledge their duty to stop the traffic if the material is intended for warlike purposes, and submits that the facts submitted would seem to leave no doubt on the point, yet the Dutch Government claim that metals for the manufacture of munitions are not military supplies within the meaning of Article 2 of The Hague Convention. No. 5 (1907). Mr. Balfour continues:—"The view that the term 'military supplies' only includes fully manufactured war material, and not the raw materials necessary for its manufacture, is, however, inconsistent with the attitude of the Netherlands Government themselves in the matter of the transit of sand and gravel, where they admit that the traffic must be stopped if it can be shown that the materials are intended to be utilised in the manufacture of concrete for the German defence works. It is as little a case of fully manufactured war material in the one case as in the other." The effect of the action of the Netherlands Government, Mr. Balfour points out, has been, and is, to give direct assistance to Germany in maintaining her military occupation of Belgium, an act of war committed in flagrant defiance of solemn treaty obligation, and maintained under conditions departing from every principle of international law and every law of humanity. In his second despatch, Mr. Balfour points out that the Dutch Government was in the position to obtain exact information as to the use of the material in question, as they can impose any terms they think necessary as a condition for allowing the goods to pass, and are not under the obligation to accept the assurances of the German officials. He adds:—"The statements attached to my previous memorandum showed that in September last the Germans had accumulated 3,000,000 tons of sand and gravel at Antwerp. The Netherlands Government appear to deduce from this that the 370,000 tons for which the German Government were reputed to be so anxious to obtain permits cannot have been intended for military purposes. The more natural deduction from this huge accumulation is that the Netherlands Government were being continually deceived as to the real purpose of the traffic. His Majesty's Government can only hope that the new investigation which the Netherlands Government propose to insist on will be more exhaustive than its predecessor."

Mr. Walter Leaf, the chairman, who presided at the annual general meeting of the London County and Westminster Bank, held last Thursday, said that 1917 had been one of moment in the inner history of the bank. It had, in the first place, seen a new departure in the establishment of branches abroad, of which he gave details. Another very important expansion

had been made by the purchase of a controlling interest in the shares of the Ulster Bank. The joint working was proceeding with all smoothness, and showed every prospect of fulfilling their expectations. Referring to the balance-sheet, he mentioned the large increase in their most liquid assets—cash in hand and at the Bank of England, and money at call and short notice. These two together showed an increase over last year of some £12,000,000. Though their cash was less, yet short loans, including their deposits with the Bank of England on Government account, which were as good as cash, had gone up by £19,000,000. In these two items alone, which were immediately available, they held nearly 40 per cent. of their liabilities to the public. It was the same with their next most liquid asset, bills discounted, which had increased during the year by close on £10,000,000. This was practically all due to large purchases of Treasury Bills. While their deposits had increased by some £25,000,000, their liquid assets had increased about the same amount. They had an increase in advances to customers of £4,800,000. This was mainly due to advances made in the early part of last year to enable their customers to subscribe to the great War Loan, and they found that in the ten months or so which had elapsed since the loans were granted, about two-thirds of the War Loan advances had been repaid—a very satisfactory result, as showing that their customers had not presumed too far upon their credit, and in most cases were again free to devote this year's savings to the State. Proceeding, he said that the shareholders had probably heard fears expressed in some quarters that the great increase in bank resources might form a strong temptation to the Chancellor of the Exchequer to help himself in some emergency by commandeering bank balances. That was not, in his opinion, a risk which deserved any attention, and for a very good reason. The Chancellor could gain nothing by such an operation, because he had got the whole increase already by a voluntary process. When they reflected that the increase in cash at call and short notice was mainly lent to the Government through the Bank of England; that the great increase in bills discounted had gone direct into the Chancellor's hands in the form of Treasury Bills, and that the increase in advances had done so indirectly through the bank's customers' investments in War Loan, the shareholders would see, and the Chancellor knew this as well as anyone, that if he attempted to call upon the bank for anything in the way of a forced loan it would not be possible for it to meet such a requisition, except by taking from him with one hand what he was asking the bank to give with the other. Their gross profits were a record—nearly a million more than last year and over two millions more than two years ago. But against this the interest paid to customers showed an increase of considerably more than half a million. There was also a heavy increase of just £200,000 in expenses, but it was wholly due to war bonus to their staff at home and to allowances to those on active service.

THE UNITY OF THE PROFESSION.

The recent informal conference at the R.I.B.A. on the unity of the profession elicited a hope that it might be followed by a more representative one embracing all interested, and especially the allied societies in the Provinces. If such a conference is held—and we hope it may be—it may be useful to summarise briefly the possibilities before us, as they appear to most who have thought out the matter, and to suggest one which, so far, does not seem to have been propounded by anybody, but the bases of which, we incline to think, are the only ones on which Parliament will give architects what in some shape or form the thirty years' propaganda of the Society of Architects has convinced most of us is indispensable. Anyhow, we know that Mr. C. Arthur Butler, the secretary of the Society, described exactly the feeling in the Provinces on the question of unity. All country architects, as he said, see the necessity for registration in some form, usually statutory, and the Institute will have to cater more for the provincial architects if this question is to be solved, as there is a feeling among them that architects in London look at these matters from a different point of view, and do not recognise or know anything of the difficulties which architects in the Provinces have to deal with.

The first possibility, of course, is that suggested by Mr. Arthur Keen in the terse and practical communication he contributed to the discussion. As he said:

The whole matter was exhaustively studied a few years ago and a scheme was drawn up which was acceptable to the Councils of both the bodies concerned. Let that scheme be revived and all made ready for presenting it to the general body of the Institute when the war is over and "the boys come home." If I am not mistaken it will then be adopted. Certainly very good reasons could be adduced for adopting it. The war has shown us in countless instances that anything can be accomplished by persistent pressure—from tightening a blockade to removing a Prime Minister or even internig a German—and it is obvious that the standing of the profession might be greatly improved by really united action on well-considered lines. The term "The Profession" is, however, an indefinite term: we must make up our minds first as to the standard that we are prepared to adopt, and, second, as to the best method to be adopted for admission to the Institute of those who have not been through the schools and cannot well be put through the ordinary examinations. But I feel sure that a mere extension of the class of licentiates will be practically useless to us. What we must aim at is to transplant those now in the licentiate class and outside and to add them to the effective strength of the Institute.

The amalgamation scheme had our support at the time, and we still incline to regret its defeat, though we quite understood then and understand now *why* it was defeated. Still, it is, perhaps problematical whether a mere "As you were" appeal would evoke a more decided approval to-day than it did then. Mr. R. Goulbourn Lovell's statements with regard to the attitude of the Associates in 1914 were perfectly true; and, although that attitude may have been a mistaken one, it was natural: it is not likely to be abandoned, especially if the R.I.B.A. should resume the shovelling in wholesale of outsiders, and their investiture with a qualification scarcely distinguishable from that the Associate wears with justifiable pride because he won it.

Next there is the advocacy by more than one present at the conference of the continuance of the present separate existence of the Institute and the Society, though no two speakers favouring that solution seemed agreed as to the proper

functions of each. As Mr. A. R. Jemmett said, the idea of having two societies, one to look after architecture and the other after business interests, has not been favourably received. Perhaps, as he said, because—

If you follow a liberal art like architecture, follow it whole-heartedly, you often find you are doing so to the detriment of your pocket, your private interests. No society can look after both, and that is our difficulty here. We get cut into two sections. One man comes down full of generosity and wishes to do something for the good of architecture, another comes down to protect his pecuniary interests, and the moment one opens his mouth the other contradicts him, and they go on cancelling one another out. And we shall go on cancelling one another out in this Institute to the end of time. If you get an Architectural Society, as distinct from a Society of Architects, an Architectural Society composed of all the men in the country who are interested in architecture—architects and others—for improving architecture, you will be doing much good. And if you like to have a Trade Union or Guild for the protection of architects from the pecuniary point of view, very well; that is another kettle of fish. The two societies will sometimes be in flat contradiction, but I think it is better to have flat contradiction between two societies than among the members of one society, because in the latter case we annul one another's efforts, and the Institute takes no strong action in either direction.

Mr. Jemmett's remarks awakened memories of *lang syne* in connection with the foundation of the Society of Architects. The few of its first members still with us may remember that the aims of those most responsible for its inception were centred round the creation of such an "Architectural Society as distinct from a Society of Architects," as Mr. Jemmett postulated. That other developments have been among "the things that went as they would" was because some of the hardest workers for the Society during its first three years of existence hardly realised the necessity for a mere copy of the Institute—feebler or stronger, as the case might be—which to a considerable extent it became under later guiding influences. Some *know*, at any rate, that as that was perceived the existence of the Society would in all probability have been a brief one had it not accepted and set sturdily to work as it has done—not, indeed, for "Architectural Federation," as it was suggested it should, but for Architectural Registration, which, perhaps, to many, seemed the same thing, but might not be.

It has not; and principally for the reasons Mr. H. F. Fletcher, the president of the Architectural Association, pithily put in a nutshell as he said:—

The difficulty about Parliamentary registration is that the powers which have been created in other professions by Parliamentary registration—especially in the medical profession—have turned out to be so large that Parliament will be chary of granting them to any other profession in the future.

That is so, and we are certain Parliament will never grant Registration to any one body which, like the R.I.B.A., has done, seeks to make its membership the qualification for the right to practise. What Parliament will do—or at least we hope so—will be to insist on some qualification, obtainable by some test determined and modified from time to time by the recognised existing representative bodies of the profession, including the Royal Academy, the Institute, the Society, the Architectural Association, the Provincial Architectural Societies, and the Universities in which Chairs of Architecture are established. From these bodies a General Architectural Council might be elected with some such powers as those of the General Medical Council, but with the right of appeal to some

legal tribunal by any member expelled, just as a solicitor has whom the Law Society seeks to strike off the rolls. We really think the idea workable, and should be glad especially to have the opinion of some of the members of the Provincial Societies. We know very well that in the great provincial towns the membership of the local society—such as that of the Manchester Society of Architects, for instance, the oldest of the societies—is regarded by fellow citizens as a much more tangible hall-mark than that of a Metropolitan Society of the existence of which many are ignorant, and which is rarely brought to the knowledge of anyone, except perhaps once in a dozen years or so, when a visit is paid by its members to discuss some matter of general or local interest or while away a summer outing. The more this was made so, the more would the local architect's standing be enhanced, and that of the Federation with which he and the local Society were allied.

Some such scheme, at any rate, was in the minds of some of the earlier members of the Society of Architects. Perhaps it was quixotic; but, at any rate, it was never fully discussed. Perhaps it will not be now, but it probably will be in Parliament if ever a Registration Bill gets into Committee: so, if only as an intellectual recreation of the sort the R.I.B.A. is relaxing the tension of the times with just now, it may pass an hour or two not altogether idly nor without ultimate results.

AMERICAN TIMBER.

A special meeting of the R.I.B.A. Practice Standing Committee, to which the council and the Science Standing Committee were invited, was held on Tuesday, December 18, 1917, to meet Mr. John R. Walker, Trade Commissioner of the United States Department of Commerce. The chairman, Mr. George Hubbard, in introducing Mr. Walker, stated that he had come over to England with the primary object of informing this country how it would be able to obtain American timber after the war, and he would explain to the meeting the quality and supply of American woods generally and in particular, and be prepared, no doubt, to reply to any questions and take part in the general discussion of the subject in all its details.

Mr. Walker, addressing the meeting, said: All the world is interested in the question of the supply of raw materials which will be available at the conclusion of the war. Your nation, which imports so large a part of its raw materials, is deeply concerned with this question, and one of the most important of these materials is timber. The American nation is interested in the question of timber because it is one of our chief natural resources, and because our Allies—Belgium, France, Italy, and Great Britain—are looking to us to play a large part in the reconstruction which must take place at the end of the war. Neither your nation, nor our own, desire to be found unprepared for peace, and I have been sent over here by my Government to study the whole situation with respect to timber importation and usage, with a view to formulating plans which will ensure that such supplies as we are able to furnish will be used to the best advantage.

When I embarked upon this mission I examined the statistics relating to timber production and timber importation by the various countries of the world, and was struck by the fact that while Great Britain is the largest importer of timber, and ours the largest producer of timber, the amount of business which we have done with one another has been relatively unimportant. Great Britain normally imports some 2,500,000 standards of timber per year, and of this amount only 250,000 standards, or 10 per cent., comes from America. Our nation produces 20,000,000 standards of timber per

year, which is as much as all the rest of the world combined, and only $1\frac{1}{4}$ per cent. is shipped to you.

My study of the situation during the three months that I have been here has led me to the conclusion that the smallness of this trade is not altogether a matter of geography, but is largely due to the fact that your practice in the use of wood for general construction purposes does not coincide with our practice in producing it, and that this has served as a bar to a larger trade.

During the past fifty years or more that your nation has looked to the outside world for the major portion of its timber supplies, 90 per cent. or more of your importation has been the soft woods of the Baltic and of Canada, and your building practice has been based upon the characteristics of these woods. It has been found that scantlings and joists of certain sizes are required in these woods to support certain strains, and these sizes have come to be recognised as standard by architects, builders, and local authorities.

When we in America began to build with wood in the colonial days we built with our Northern yellow pine and spruce, and employed the same standards which you use. This practice was brought over from the mother country by our ancestors. Since the middle of the last century, however, our Northern soft wood forests have begun to show signs of depletion, and our saw milling industry has become largely established in our Southern and Far Western forests. In our Southern pine forest, which stretches along the coastal plain from Virginia to Texas, are found three sub-species of timber, which we denominate under the collective name of Southern yellow pine. These three sub-species are long leaf pine, short leaf pine, and Loblolly pine. The long leaf pine has been known in this market as pitch pine, and the short leaf and Loblolly pine as North Carolina pine. The chief characteristics of the long leaf pine are that it is of relatively slow growth, and consequently close grained and possesses exceptional strength. Also it consists largely of heart wood as distinguished from sap wood, and contains a large quantity of pitch and turpentine, for which reasons it has great durability when exposed to moisture. The Loblolly pine, on the contrary, is a tree of rapid growth, and consequently wide grained, and is almost altogether a sap wood. It has less strength and less durability than long leaf pine, but is better adapted for use in joinery, as it is more easily worked, and takes paint better because it contains less pitch and turpentine. The short leaf pine occupies a middle place between the long leaf and the Loblolly. Certain specimens approximate the long leaf pine and others the Loblolly pine.

The annual production of these Southern pines is in excess of 7,000,000 standards, and it is the wood which we use more largely than any other for general housebuilding and construction work. For interior finish and joinery and for the carcassing of buildings we use these three woods interchangeably, and when we want exceptional strength we stipulate that the material must be close grained, and when we want exceptional durability we stipulate that the material must be free of sap. While it is the long leaf pine which most readily complies with these requirements, yet a short leaf or a Loblolly timber which also complies with these requirements gives equal satisfaction. The test for strength is not the sub-species to which the particular stick belongs, but the closeness of the grain, and the percentage of hard or "summer" wood; likewise the test for durability is not the sub-species, but the percentage of heart wood.

Our other principal soft wood production is in the Pacific North-West, of the wood which we call Douglas fir, and which is called here Oregon pine and British Columbia pine. The annual production of Douglas fir is 2,500,000 standards. This wood is used by us for all the purposes for which we use Southern pine. It is a wood which is practically free of sap, and is consequently durable, although somewhat less durable than the best long leaf pine. Very

large sizes are obtainable in this wood, and for the next few years, while ocean freight rates remain abnormally high, it will perhaps only be the larger sizes which can be profitably imported. The weight of Douglas fir is slightly less than the weight of long leaf pine, and its strength correspondingly less. It has about the same general strength as short leaf pine.

When we began using Southern pine and later on Douglas fir, we found that we were using a harder and a stronger wood than the Northern pines and spruces which we had previously used, and in course of time there was evolved through the collaboration of architects and timber producers certain standard sizes of joists, scantling and so forth in these woods, which are smaller than the sizes which we had formerly used in the softer woods, but which produce not only an equivalent of strength, but a surplus.

Without, at this time going into all the details of the subject of standard sizes, a general view of the situation may be given by the statement that the general practice in our Southern and in our Western pine industries is to manufacture all material to even inches in width—in other words, the stock sizes are 4, 6, 8, 10, and 12 inches in width by 1, $1\frac{1}{2}$, 2, 3, 4, 5, 6, 7, 8, 9, 10, and 12 inches in thickness.

The custom with the sawmills is to set their saws to produce the dimensions above given in the green timber. These stock sizes are then piled for drying—the smaller sizes and boards being frequently artificially dried by dry kilns—and in the process of drying the timber shrinks slightly below the sizes above named. The rate of shrinkage in these woods is not as uniform as in the slower-growing Baltic and Canadian woods. Consequently the general practice is to run these dry boards, scantlings, and joists through a planing or equalising machine, which finishes them to a size which is, of course, somewhat smaller than the scant sizes of the rough, dried material above indicated. In other words, a 6 by 2 joist would be that exact size when it came from the sawmill; after it had dried it would perhaps be $1\frac{1}{2}$ inches by $5\frac{1}{2}$ inches. The standard or finished size of a 6-inch joist is, however, $5\frac{1}{2}$ inches, which is arrived at by running the stick through a planing machine and planing one edge so as to produce this dimension. When desired, one side of the joist is also planed, without extra charge, down to the standard size of $1\frac{1}{2}$ inches. The standard size of all scantlings and joists is likewise $\frac{3}{4}$ of an inch scant of the nominal green size.

All inch lumber is finished to 13-16 of an inch in thickness, and when the edges are planed the standard width is $\frac{1}{4}$ inch scant of the nominal or green size. Flooring strips are 13-16 of an inch in thickness, and 2 $\frac{1}{2}$, 3 $\frac{1}{2}$, and 5 $\frac{1}{2}$ face measure, exclusive of the tongue, and all of this material is tongued and grooved. The nominal or green size of the flooring strip which produces a piece of flooring 13-16 by 3 $\frac{1}{2}$ in width is 1 by 4.

Elaborate tests have been made by the United States Forest Products Laboratory, and by the Canadian Forest Service, to determine the strength of various woods, and these tests indicate that the Southern pines are from 33 $\frac{1}{2}$ per cent. to 50 per cent. stronger than Canadian and Baltic yellow pine, red pine, and spruce, and that Oregon pine is 25 per cent. stronger than these Northern woods. I have also seen the results of special tests made in this country for various purposes, which confirm the general comparisons above given. It therefore appears that while a 6 by 2 Southern pine joist dried and finished to $1\frac{1}{2}$ by $5\frac{1}{2}$ would contain 12 $\frac{1}{2}$ per cent. less cross section or cubic area than a 6 by 2 Baltic or Canadian red wood or white wood full-size joist, yet it would possess the equivalent strength of such a joist, and, in fact, something like 15 per cent. more strength.

The plan which I propose is that in your building plans of the future provision be made for the use of American woods in the American standard sizes as an alternative for the Baltic woods in their standard sizes. Heretofore it has been impossible to sell a 6 by 2 pitch pine or Southern pine joist in competition with the Baltic 6 by 2, for the

reason that to produce a joist which would be 6 by 2 when dried it would be necessary for our mills to change their normal method of manufacture and to charge you with this expense as well as with the waste which would be involved in reducing to our standard sizes all of the low-grade material which would be produced, and which we would have to keep at home.

I am convinced, however, that if our standard sizes are provided for, they can be sold in competition with the equivalent sizes from the Baltic and from Russia. The cost price of these standard sizes would be £2 a standard less than the cost of producing the special sizes for this market. There would be an infinitely greater stock of material from which to draw, and the material would be dried before shipment, which would save cargo space and freight charges. I am of the opinion, therefore, that these standard sizes of Southern pine could be delivered in these markets at £4 a standard less than the special sizes which this market has heretofore called for, and the supplies available would be larger, despite the heavy demand which will be made upon us by Belgium, France, and other countries.

Unquestionably, Norway, Sweden, Finland, and Russia are more favourably situated to supply your market and the other European markets than our Southern and Western producers, but if, as everyone anticipates, a shortage of raw materials will exist at the conclusion of the war, the most favourably situated woods will reflect their advantage of location by a marked increase in price. In fact, they will move up to the point where they will meet the competition of less favourably situated supplies, and consequently the plan which I have suggested, and which will make available for this market thousands of standards of materials which have never before been available, will unquestionably exert a profound influence upon the tendency of timber prices.

There are numerous other American woods which are produced in large volume, and which have special advantages for special uses, such as cypress, sequoia, western red cedar, western white pine, and sugar pine, which are very little known in your market, and regarding which I am planning measures to bring their advantages to the attention of the timber trade and timber users, but I think it best to confine this statement to the principal issue as outlined above, and to the two principal woods which are produced, and which will be available for export in the largest quantities.

Signaller E. J. Baker, who before enlisting was employed in the surveyor's department of the Pontypridd Urban District Council, was, it is announced, killed in action or died of wounds during the battle of Gaza.

Owing to the enormous demand, the price of Norwegian timber has risen very greatly. As they are unable to obtain the necessary labour, the mills do not intend to produce this year more than 25 per cent. of their regular output.

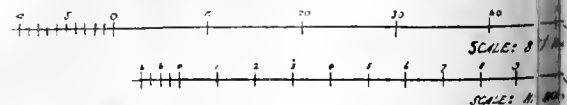
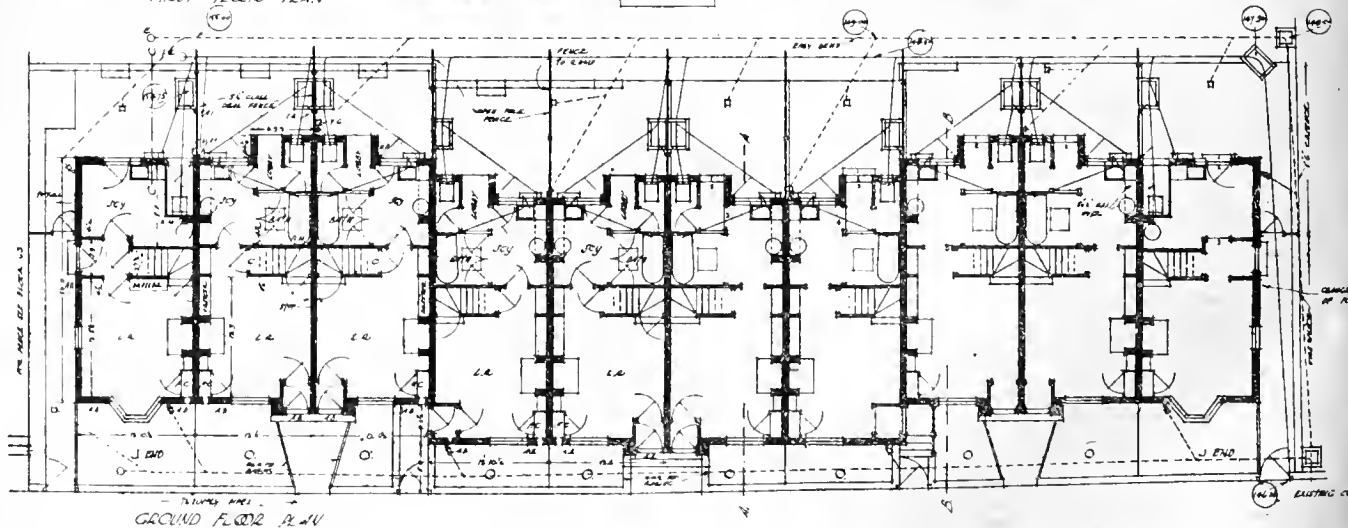
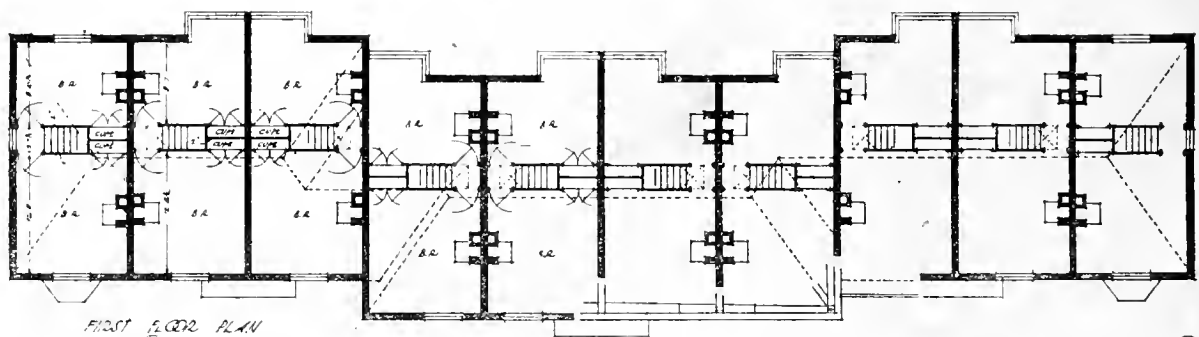
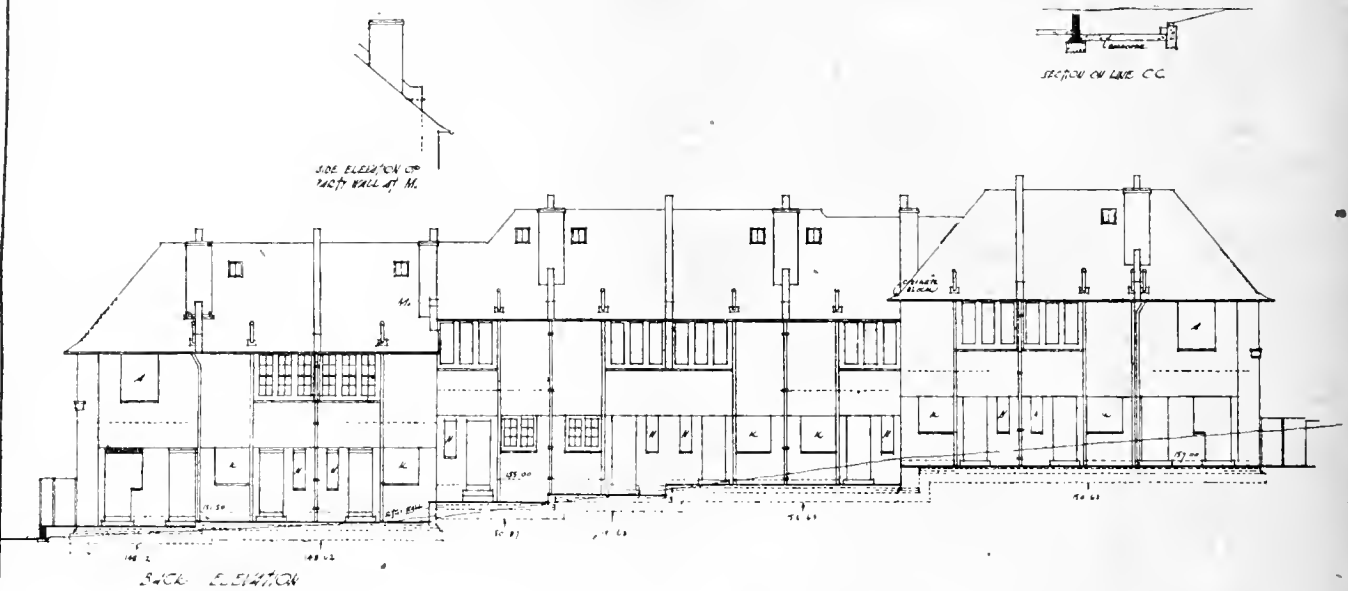
At the last meeting of the Barnsley Town Council, Alderman Wray, referring to the borough surveyor's annual report, said it was a curiosity owing to the fact that not a single house or cottage had been built during the last year. He thought that Mr. Lloyd George struck the death-blow at the building trade when he brought in his "unearned increment fancy Bill."

An interesting link between Greenwich and the hiding of Charles II. in the Boscobel oak has recently come to light in a London sale room, where a painted oak panel with a picture of the King hiding in the tree while soldiers are searching for him below was bought by Mr. Prescott Row, and can be seen at the offices of the HômeLand Association, 37, Maiden Lane, Covent Garden, W.C.

The basaltic lava of the Eifel districts of Rhenish Prussia has for some time been utilised as material for the filter beds of sewage plant. The lava requires preparation, and is ground down to different sizes and treated with diluted hydrochloric acid or with soda lye; after drying, the material is baked. The treatment is said to remove objectionable constituents and to render the grains more porous. The lava is much cheaper than the kieselguhr which it replaces.

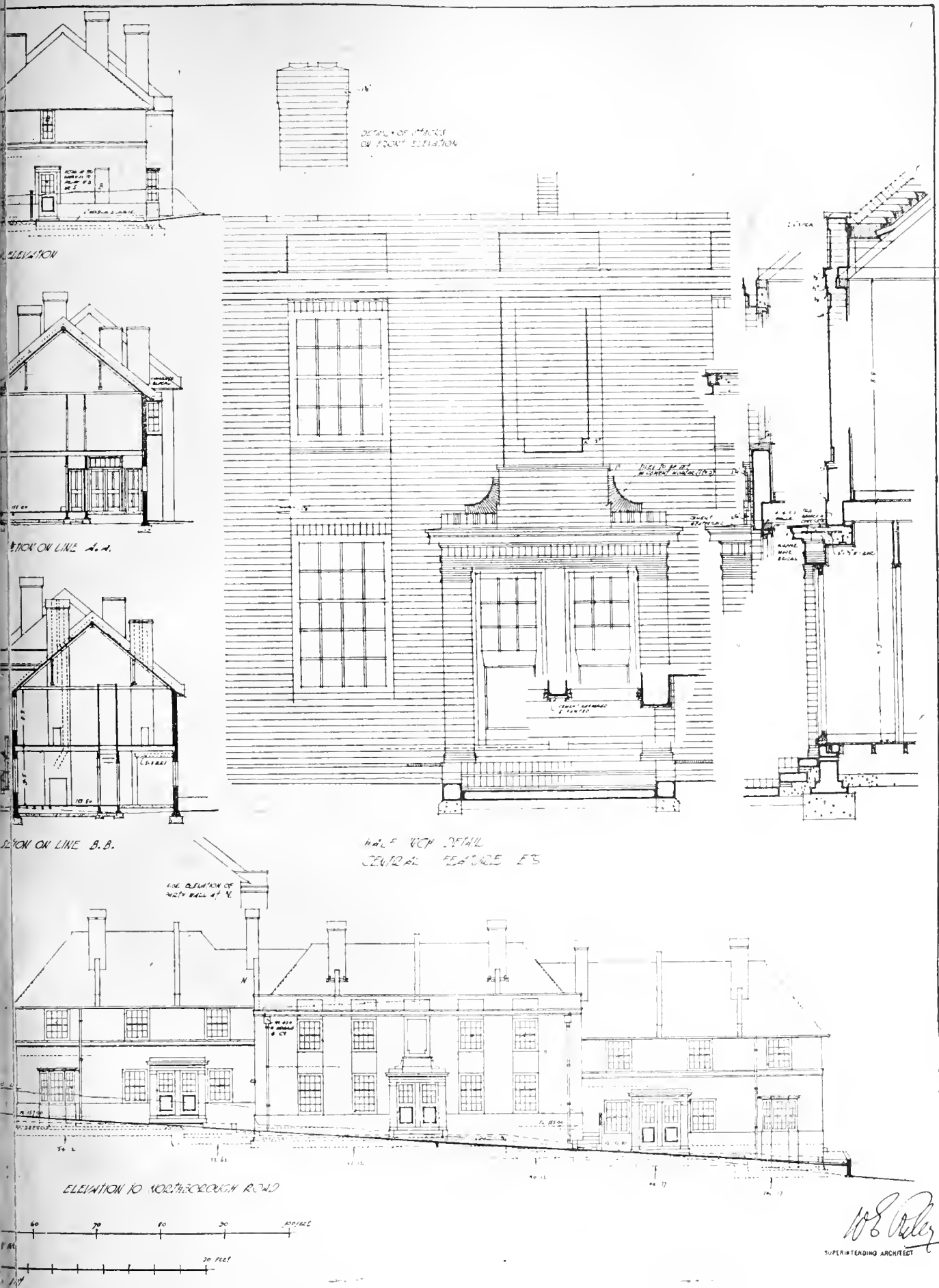
L.C.C. NORBURY ESTATE

SECTION C² BLOCK 64

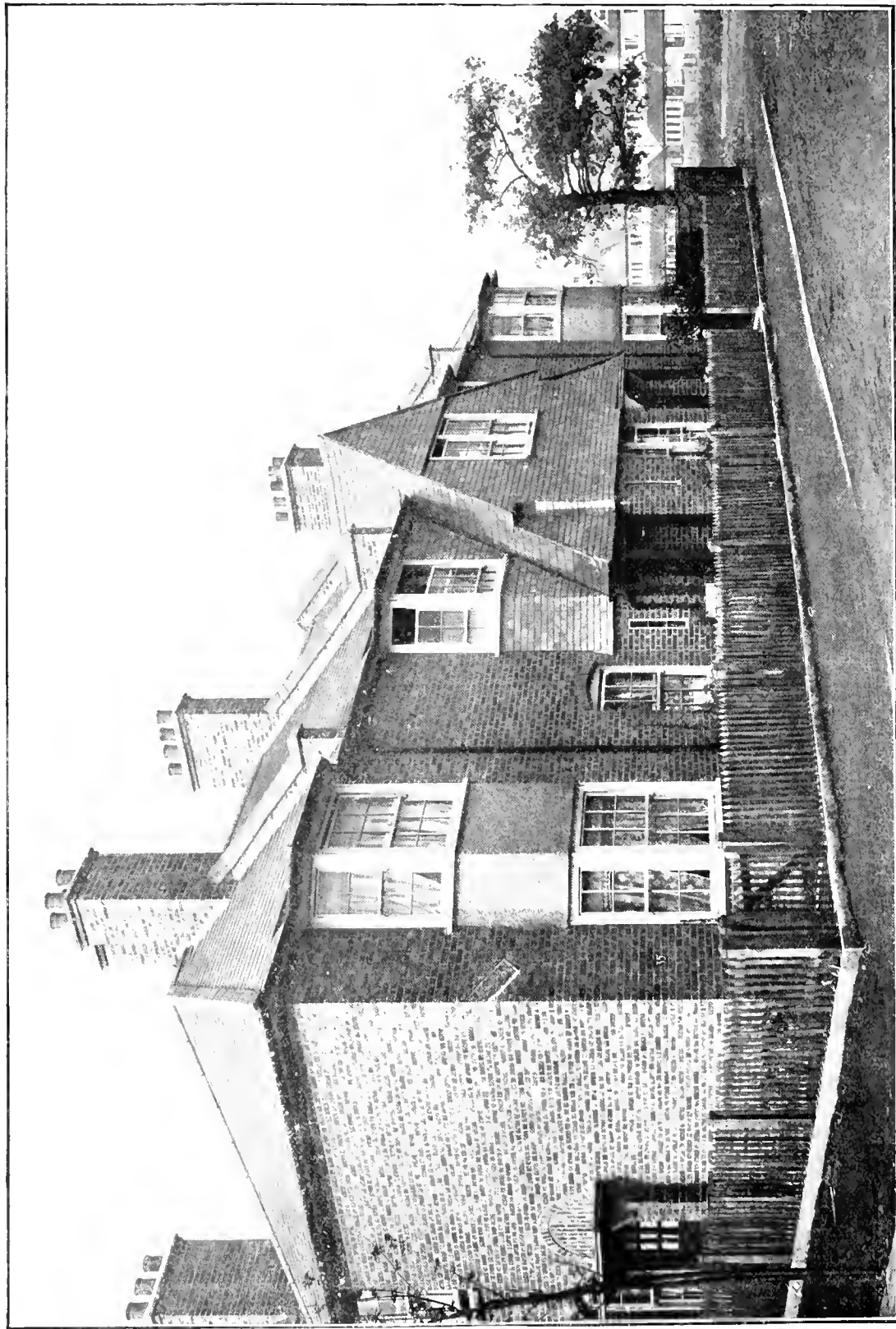


LONDON COUNTY COUNCIL'S BETTER
THE NORBURY ESTATE
Mr. W. E. RILEY, F.R.I.E.

JANUARY 30, 1918.

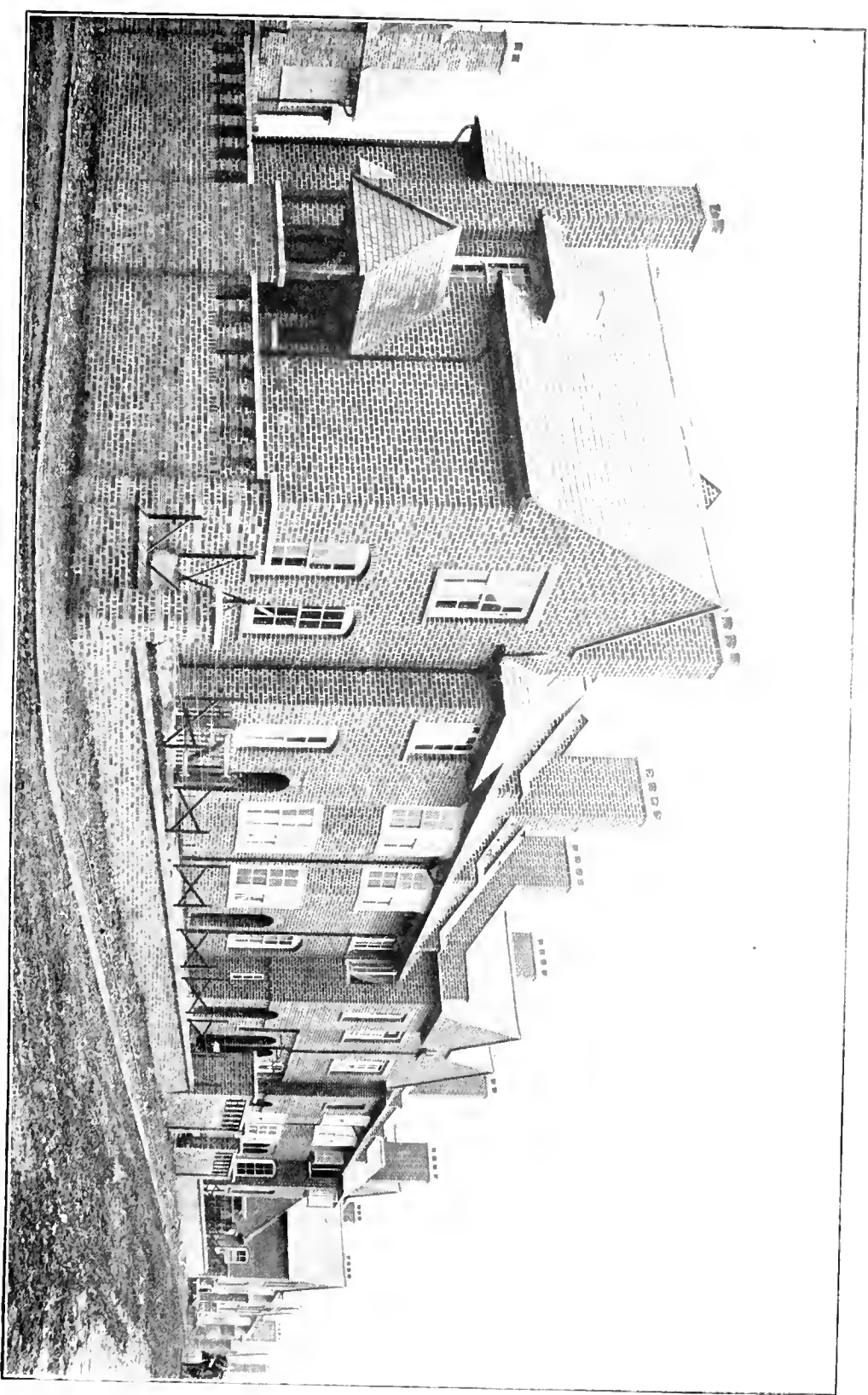


HOUSING OF THE WORKING CLASSES.
L.C.C., CROYDON.
Superintending Architect, L.C.C.



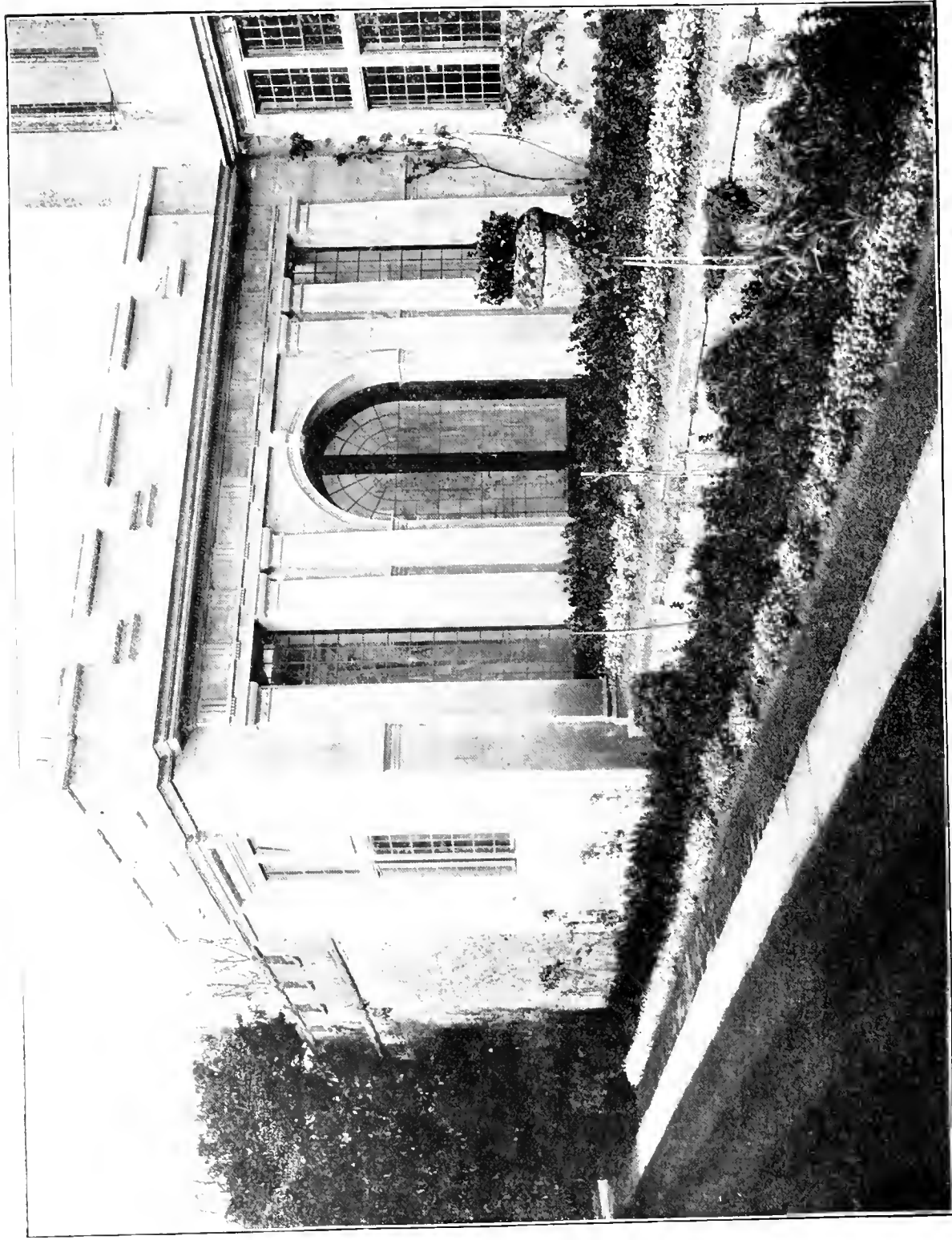
LONDON COUNTY COUNCIL'S BETTER HOUSING OF THE WORKING CLASSES.
THE NORBURY ESTATE, CROYDON.

Mr. W. E. RILEY, F.R.I.B.A., Superintending Architect, L.C.C.



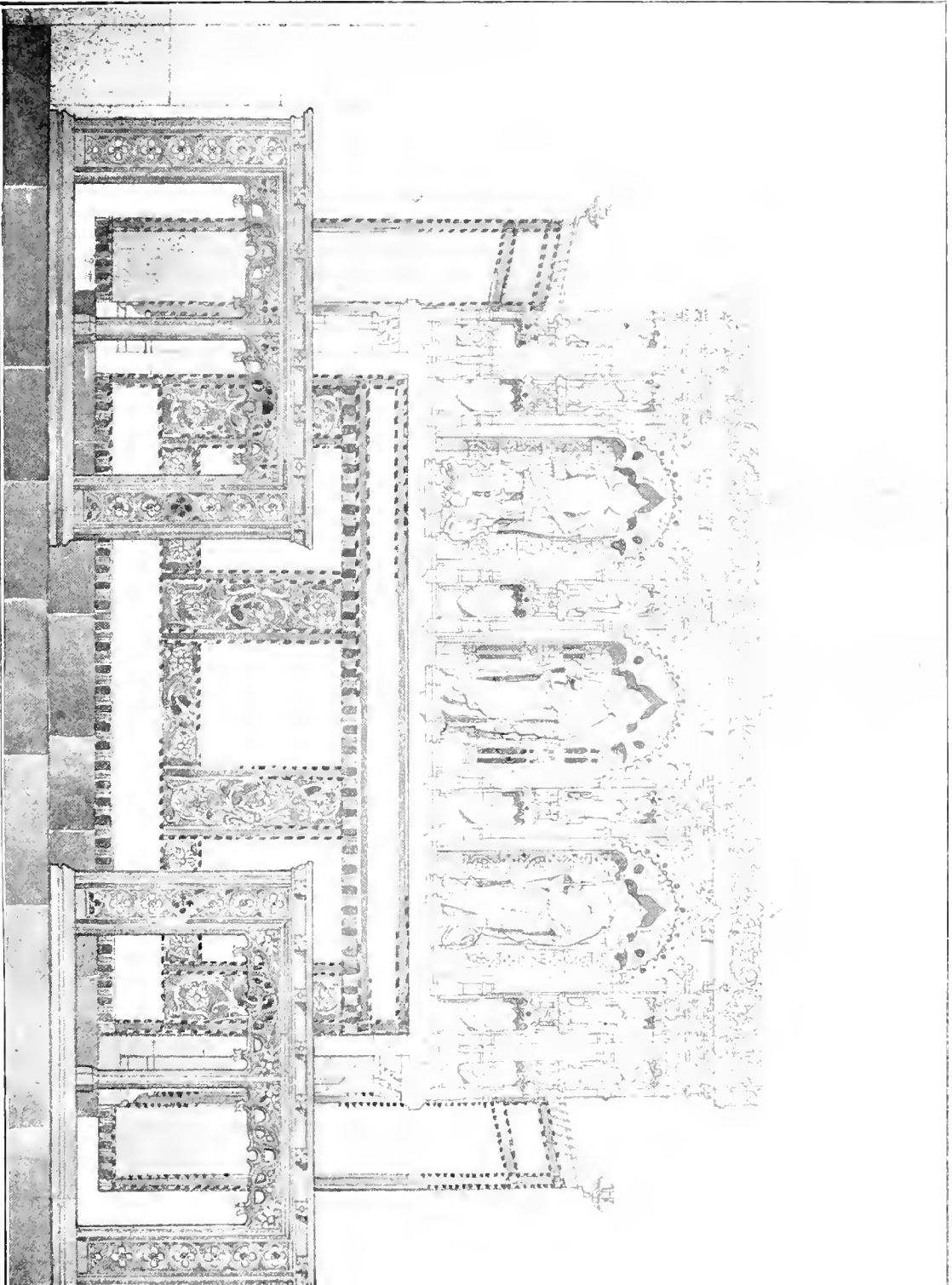
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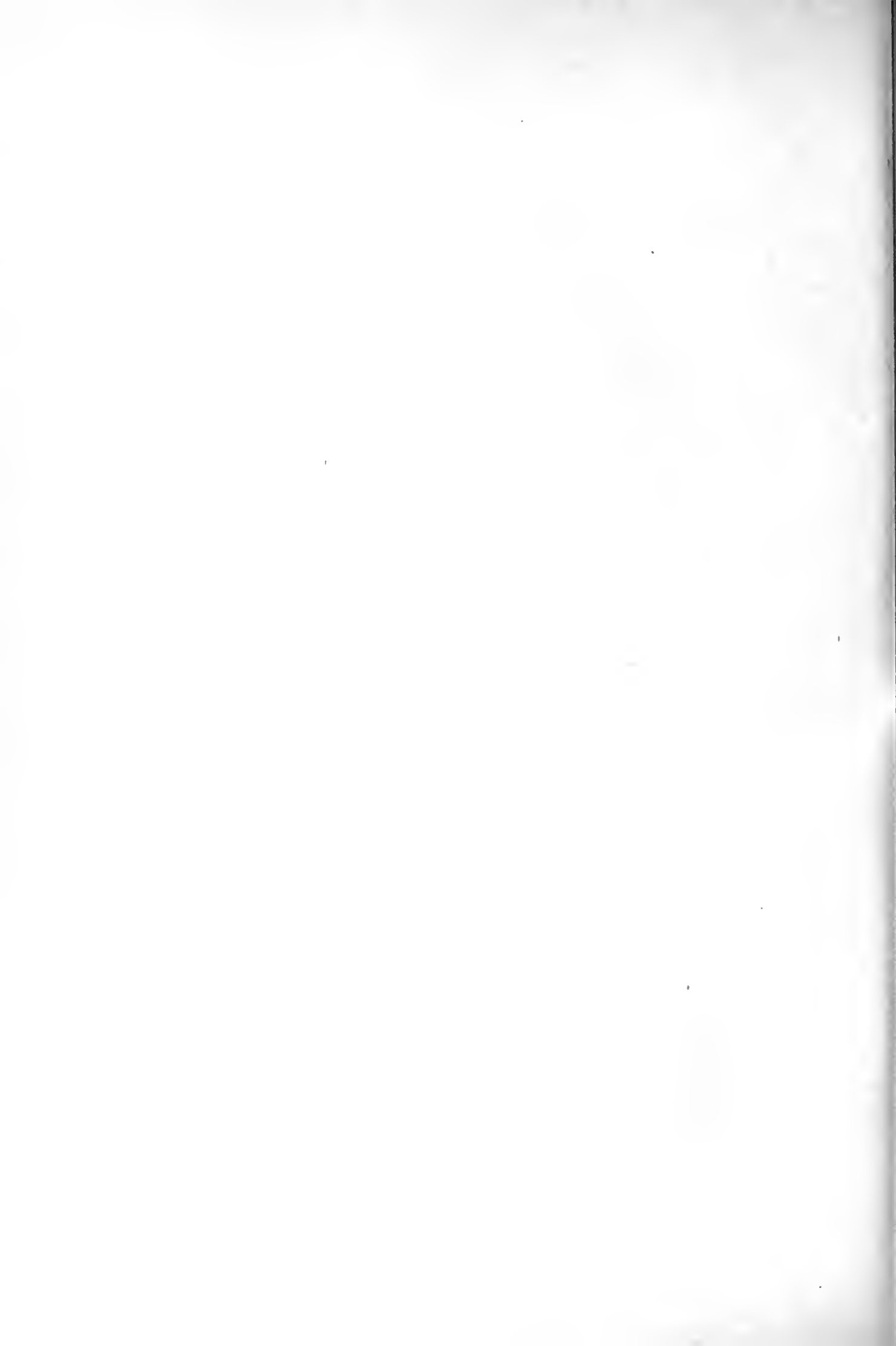


Cyril Ellis, Photo.

STOWELL PARK, GLOUCESTERSHIRE: THE WINTER GARDEN, SOUTH TERRACE.
FOR THE EARL OF ELDON, D.L.—Mr. SYDNEY J. TATCHELL, F.R.I.B.A., Architect



REREDOS AND ALTAR RAILS, TUTBURY CHURCH, BURTON-ON-TRENT.
MR. CECIL G. HARE, ARCHITECT.



Our Illustrations.

THE LONDON COUNTY COUNCIL'S BETTER HOUSING FOR THE WORKING CLASSES — THE NORBURY ESTATE, CROYDON.

Continuing the subject from last week, we give to-day illustrations and plans, etc., of the Norbury Estate, Croydon, which was the first estate acquired by the Council under the authority it obtained under Part III. of the Act of 1890 to purchase land outside the county. The site covers thirty acres, and was purchased in 1900 at £6,000 per acre; but a little more than 1½ acres was sold in 1906 to the owner of adjoining property for £3,400, thus reducing the area to be utilised to about 28½ acres. The site, which is well situated, rises rapidly from the London Road to Norton Gardens, and thence slopes in the direction of Mitcham Common. The first contract was let in July, 1902, and work has been carried out under fourteen contracts. So far 17.18 acres of the estate have been developed. The accommodation provided to date is one estate office, four shops, 48 five-room cottages at 10s. 6d. to 11s. 6d. per week, 286 four-room cottages at 8s. 6d. to 10s. 6d. per week, and 164 three-room cottages at 7s. to 8s. per week, making a total of 498 lettings, the rent in each case including all rates and taxes. The total accommodation is for 3,638 persons, taking two persons per habitable room of not less than 96 feet super. The actual population, including children, in March, 1915, was 1,761 in 29.0 lettings per acre. The expenditure to date has been for developing the estate, including roads, sewers, etc., £35,338, and for buildings, £134,733, making a total of £170,073. The five-room cottages cost from £289 10s. to £347; those with four rooms from £219 14s. to £359 13s.; and those with three rooms from £209 5s. to £264 9s., including professional expenses. The average cost per room, including buildings and plans, was £71 8s., and per foot cube, 6.3d. The loss by empties in 1916-17 was £30 3s., and the surplus on the year's working £271 3s. 1d. The work was designed by Mr. W. E. Riley, F.R.I.B.A., the superintending architect to the Council, and carried out under his supervision.

THE WINTER GARDEN, SOUTH TERRACE, STOWELL PARK, GLOUCESTERSHIRE.

We published on May 3, 1917, a pair of photographs in illustration of this new South Terrace completed recently from the designs of Mr. Sydney Tatchell, F.R.I.B.A., of Queen Anne's Gate, Westminster. The previously-given particulars printed on the above occasion leave little to add here about the work. The winter garden, represented by the accompanying photograph, ends the same terrace at its western extremity. The Earl of Eldon employed his own men belonging to the estate, Mr. E. W. Gosslett superintending as the resident clerk of the works. Photographs of the new Badminton court and new wing in the carriage courts appeared in the BUILDING NEWS for July 4 last. The Badminton court exterior is very similar in treatment to this domestic wing, but it is situated on the other side of the mansion, and the whole of Mr. Tatchell's additions are distinctive and harmonise with each other. The large windows of the Badminton court, set between massive buttresses, are mullioned and transomed. These give the hall an individual character. The original historic parts of Stowell Park were incorporated with and formed the nucleus of the mansion as carried out by Mr. John Belcher, R.A. The combined building undertakings, old and new, have insured an unusually picturesque effect set off by beautiful surroundings.

TUTBURY CHURCH REBEDOS, BURTON-ON-TRENT.

This rebedos is in coloured alabaster, and is divided into three bays—the centre one

containing the figure of our Lord blessing, with St. George on one side and St. Michael on the other. The bays are recessed and finished at top with cusped and crocketed ogee arches, the finials of which run up through the cornice and carved cresting. Between the bays are small canopied niches each containing an angel figure in attitudes of devotion. These figures stand on canopied corbels, and below the latter are shields on which are the crosses of St. George and St. Michael and the badge of the S. Staffordshire Regiment. The chapel was given in memory of the late Lieutenant Newton, of the above-mentioned regiment, and the work was carried out by Messrs. Bridgeman and Sons, of Lichfield, with the exception of the frontal and wings, which were made by Messrs. Watts and Co., of 30, Baker Street, W., and the whole scheme was designed by Mr. Cecil G. Hare, of Gray's Inn Square, London.

THE GIANT'S RING.

At a recent meeting of the Belfast Natural History and Philosophical Society in the Museum, College Square North, Mr. H. C. Lawlor, M.R.I.A., gave an interesting account of recent excavations at the Giant's Ring, convenient to the city, and this was followed by a paper on the same subject by Professor R. A. S. Macalister, M.A., Litt.D. (Cantab), F.S.A. Professor Symmers, M.D. (president) occupied the chair.

Mr. Lawlor said that the Giant's Ring had passed a few years ago into the custody of H.M. Office of Works. Early in 1917 a number of local gentlemen had formed a committee and subscribed the necessary funds for the investigation and excavation of the Ring, and the Board of Works agreed to the work being carried out under their directions. The Ring covers an area of over 10 acres, being slightly smaller than Tara or Navan Fort, and is one of the most remarkable pre-historic monuments in the United Kingdom. Unlike Tara, Navan, and Newgrange, it is absolutely without a vestige of known recorded history. It consists of an almost circular vallum averaging 15 to 13 ft. high, with an external diameter of some 250 yards, enclosing an almost level area of about 6½ acres. A little to the south-east of the geometrical centre stands a very fine and almost perfect example of a Cromlech. This had originally two large top stones, resting on seven upright supports, but one of the top stones has fallen and now lies vertically against the uprights. At a little distance lie two smaller stones, which possibly were once part of a stone circle surrounding the Cromlech. The excavations were carried out between September 10 and 24, 1917, when from eight to twelve men were at work. They cut trenches at regular intervals radiating outwards from the Cromlech to the vallum, and pits at various spots where there appeared to be slight hollows in the surface. A few feet north of the Cromlech, about a foot below the surface, were the remains of a wood or turf fire in which lay a neat stone hammer. No other relics denoting remains of the work of, or association with, man were found in any of the excavations made outside the Cromlech and inside the vallum. Below the Cromlech itself fragments of incinerated human bones were found, but these were accompanied by bits of modern glass, showing that the grave had already been excavated, unfortunately by someone who failed to record what his investigations disclosed. That it was purely and simply a sepulchral monument, the human bones prove. A trench cut through the vallum to its full height of 13 ft. disclosed the fact that this is almost entirely built of small field stones covered over by a layer of earth and sod. No large stones were found, suggesting that all were carried by hand from some distance and thrown up on the heap until it assumed its vast proportions. The vallum is divided by depressions into seven arcs, a peculiarity also found in similar and even larger circular pre-historic earthworks found in parts of North America.

Professor Macalister in a short paper, read by Mr. Lawlor, said that the fact that no antiquities were discovered in the excavations was by no means surprising, having regard to the probable nature of the monument. In fact it confirmed the conclusions arrived at from comparative study and investigation of similar or analogous monuments in Ireland and other parts of the world. The Cromlech was erected over the sepulchre itself, like all dolmens, after the model of a house. It was a house for the soul of the deceased. The ground surrounding it was sacred, enclosed by the vast wall which served to keep intruders out, and at the same time to keep the spirit in. A relic of this ancient belief is still to be found, in remote parts, where the old ring forts and raths are still believed to be the home of fairies or other supernatural beings. Like Stonehenge, the Giant's Ring, itself a stone age monument, in time became the centre of a vast bronze age burial place, as the vast number of urn burials discovered from time to time outside, but not inside, the Ring shows. Professor Macalister believed the date of the Ring to be roughly about 2,000 years B.C. That the monument was erected to the memory of some person of outstanding importance is evident from its huge proportions. That he was eventually deified, and that annual religious festivals and games came to be held there are probable. Living memory brings us back to annual horse races and other sports held in the Ring, possibly survivals of those of pre-historic times.

A descriptive list of all the known discoveries of numerous bronze age burials found in the immediate neighbourhood of the Ring was given by Mr. Lawlor, and a number of lantern slides of the excavations, Cromlech, vallum, and surrounding dolmens were displayed by Mr. A. R. Hogg.

PROFESSIONAL AND TRADE SOCIETIES.

EDINBURGH ARCHITECTURAL ASSOCIATION.—On Thursday last Mr. W. Forbes Gray, F.S.A.Scot., gave a lecture on "Gourlay's House and Its Memories." He described at length the old mansion, prison, and royal palace, and its site and structural peculiarities. Fresh light was thrown on Robert Gourlay and his family, and the lecturer dwelt on the unique interest of the mansion which was Sir William Drury's lodging during the siege of Edinburgh Castle. Among others, the Earl of Morton was an inmate, and an account was given of Ministers' pathetic interview with the doomed Regent. Reminiscences of the Massacre of Glencoe followed, and Father Hay's narrative of Lockhart's assassination in Old Bank Close.

REIMS CATHEDRAL AND ITS SCULPTURES.—Professor G. Baldwin Brown, Edinburgh University, read a paper last week to the members of the Edinburgh Association of Science and Arts on "Reims and its Sculpture." Reims in the perfect balance of its æsthetic qualities represents, he said, the culmination of the Gothic art of Central France, and it is specially notable for the exceptional amount of decorative sculpture of the finest kind displayed in the upper as well as the lower stages of the structure. It is more poetic than Amiens, more restrained than Beauvais, and though in some points of interest it yields to Chartres, it stands, on the whole, first among the great Gothic churches of the world. It possesses, moreover, a special importance for the student of artistic history in that the qualities shown in it are directly expressive of the life of the times in which it arose. Central France in the twelfth and early thirteenth centuries was the theatre of important new movements in the political, social, religious, and intellectual spheres, as well as in the domain of the imagination and the emotions, and every aspect of these movements left its impress on the great architectural monuments, such as Reims, that were the glory of the age. The structure and decoration of the building were displayed in a series of illustrations. Some of the slides exhibited the result of the bombardments suffered by the cathedral in the earlier months of the war.

LEGAL INTELLIGENCE.

BRISTOL CONTRACTOR'S £12,000 CLAIM.—By a reserved judgment delivered last Thursday, in the Court of Appeal, Lord Justice Pickford and Mr. Justice Neville held that the Cardiff Corporation were not liable to pay the £12,000 awarded to the late Mr. Louis Philip Nott, contractor, of Bristol, for extras in connection with a contract for the construction of a new reservoir for the Corporation. Lord Justice Bankes dissented. The appeal was accordingly allowed, and an order made that the arbitrator ought not to have awarded any sum for extras.

FUTURIST STAINED-GLASS WINDOW.—In the King's Bench Division last Friday the hearing was concluded of the action brought by Mr. Edward Duveen against Mr. James Elliman, of Slough, Bucks, the proprietor of the embrocation that bears his name, to recover £84 alleged to be due to him for services rendered in connection with the erection of a stained-glass window in St. Mary's Parish Church, Slough. Mr. Elliman alleged that Mr. Duveen had been negligent in the performance of his duties and counter-claimed for the return of moneys paid and for damages. It was stated that the window, which was of a Futurist character, cost 900 guineas, and that the fee of the artist, Mr. Wohmark, who designed the window, was 600 guineas. The reason for the selection of a Futurist design was that Mr. Elliman expressed a strong antipathy to windows depicting "saints and halos." What he wanted was a window with a beautiful colour scheme. There was no complaint by the defence regarding design or colouring of the window. It was the financial aspect of the matter around which the dispute centred. The jury returned a verdict for the defendant on the claim and for the plaintiff on the counter-claim, and judgment was entered accordingly.

OBITUARY.

Sir John Wolfe Wolfe-Barry, K.C.B., the civil engineer, died late on January 21, at his residence, Delahay House, Chelsea Embankment, in his eighty-second year. He was the youngest son of Sir Charles Barry, the architect of the Houses of Parliament, and was born in 1836, and a pupil of Sir John Hawkshaw, with whom he was associated in the construction of the Cannon Street and Charing Cross Railways, and of the bridges which carry them across the Thames. He started in practice for himself in 1867, and quickly made his reputation in connection with railway work. Among the railways for which he acted as consulting engineer were the Caledonian, Lanarkshire and Ayrshire, London, Chatham, and Dover, Metropolitan District, Bengal Nagpur, Kowloon, and Shanghai and Nanking. He was the engineer of the Barry Docks and Railways, of the Grangemouth Dock, of the Surrey Commercial Docks, of the New Alexandra Dock at Newport, of Natal Harbour, of the railway bridge at Blackfriars in connection with St. Paul's Station, of the Tower Bridge, and of the new Bridge at Kew. Sir J. Wolfe-Barry took a keen interest in engineering education. He was largely responsible for the determination of the Institution of Civil Engineers (of which he was elected president in 1896) to establish an examination as a condition of entry to its ranks. He was also Chairman of the executive committee of the City and Guilds of London Institute. He was made a C.B. in 1894, on the completion of the Tower Bridge, and a K.C.B. three years later. He married, in 1874, Rosalind Grace, daughter of the Rev. E. E. Rowsell, by whom he had four sons and three daughters.

The death is announced, at Durham, on Sunday last, of the Rev. Dr. William Greenwell, D.C.L., F.R.S., one of the best-known archaeologists of his time, at the age of 97. Dr. Greenwell was the son of the late William Thomas Greenwell, J.P., D.L., and was born at Greenwell Ford, Durham, in 1820. He was educated at the Grammar School and University College, Durham (of which he was a Fellow, 1844-54), and was ordained by the Bishop of Durham (Dr. Edward Maltby) in 1844. He was successively vicar of Ovingham and Mickley, Northumberland, 1847-50, Principal of Nevill Hall, Newcastle-on-Tyne, 1852-54, and Minor Canon of Durham, 1854, an office which he held for over half a cen-

tury. In 1865, on the nomination of the Lord Chancellor, he became rector of St. Mary in the South Bailey (or St. Mary the Less), Durham. In 1882 he was made Hon. D.C.L. of his university. Canon Greenwell's subject which he made peculiarly his own was that of ancient British civilisation. His *magnum opus* was a record of his excavations, "British Barrows." He came to the conclusion that whereas the Bronze Age inhabitants of England cremated their dead, the Late Celtic or Early Iron inhabitants of these isles, who had been in possession of iron weapons and implements for, perhaps, two centuries before Caesar's arrival, used to bury their dead. Among the angling fraternity Canon Greenwell was known as the inventor of the "Greenwell Glory" fly.

Our Office Table.

There was a representative meeting at Stoke-on-Trent last week of members of all the manufacturers' associations to consider means of improving the design of British pottery. Among the matters discussed were better education of apprentices and craftsmen by means of daytime continuation classes; the improvement of the status by designers; and the education of buyers and salesmen employed by the distributors. It was stated that in London successful classes had been formed for employees of big stores, the object being to influence the public in purchasing wares possessing a higher standard of design. It was decided to form a branch of the Design and Industries Association for the pottery industry.

A Bill has been deposited for introduction into Parliament this session under which it is proposed to incorporate a company for the purpose of constructing a deep-water wharf at Canvey connecting with the Barking to Southend line of the Midland Railway at Billericay. The share and loan capital of the proposed company is to be £1,155,355, of which £850,000 will represent the ordinary capital. The promoters named in the Bill are Sir John Taverner, Mr. Geoffrey C. Kemp, Mr. William Henry Wolf, Mr. Charles Stevens, Mr. Arthur Lord, Mr. Henry Mann, and Mr. F. Trench Kemp. The railway connecting the wharf with the Midland Railway system will be about 6½ miles in length, and are intended to be worked by electrical power from a generating station to be erected on Canvey Island. The proposed company is to be deemed to be a railway company, with the right to enter into working agreements with the Midland Railway Company for the maintenance, management, use, and working of the proposed railways. The time sought within which to complete the proposed works is five years from the passing of the Act, during which period power is sought to pay interest out of capital to an amount not exceeding in the aggregate £100,000.

Speaking at the London School of Economics on Friday, January 18, on artificial manures, Sir Alfred Hall, formerly director of the Rothamsted experimental station and now permanent secretary to the Board of Agriculture, referred to the efforts that are being made to augment the supplies of potash, for which we were before the war entirely dependent upon Germany. The feldspars in this country were, he said, a basis of potash. A workable process had been put forward by a Swedish inventor, which had been tried here. It was a roasting process, and 100 tons of Cornish feldspar corresponded to about eight tons of potash. The balance, after treating 100 tons of feldspar, was 220 tons of white cement, which, although a true hydraulic cement, had not the strength of Portland cement. The total production of potash by this means would be small, but about 220,000 tons of this white cement would result from the treatment of the feldspar on a reasonably large scale, and it was doubtful whether the process would be profitable unless a market for this cement could be found.

At an exhibition of instruments and apparatus especially devised for war cripples, which was recently held in Charlottenburg, there was shown, according to a German review in the *Revue Générale d'Electricité* (Paris), a table constructed to facilitate industrial drawing and designing by cripples. The table consists of a drawing-board in which are fixed a large number of small electro-magnets governed by pedals operated by the foot. The instruments employed, such as T-squares, protractors, etc., are all provided with attachments of magnetic masses of metal, and the electro-magnets hold these in place while the workman is drawing. The rulers are made of wood and are attached to the board, along which they slide. Both rulers and T-squares are provided with graduated scales. The electro-magnets obtain the necessary current either by connection with an electric-light circuit or from a small battery of accumulators.

The first of a course of five public lectures on town-planning by Professor Beresford Pite was given in the Manchester City Art Gallery last Friday afternoon. Professor Pite said that London, and even Manchester, in their irregularity, misty humours, and gruesome hues, had an artistic appeal that thwarted a clear vision of civic architectural decency. There were elements of undesigned beauty in sites, in atmospheric effect, in the unaffected purposes of chimneys, and in the mingled disorder of dwellings, gasworks, churches, and factories; but they could not and must not be the basis of any respectable theory of civic design. Unaffected directness and simplicity of planning must be the main guiding principles of the town-planner.

Substantial progress in connection with the Scottish Veterans' Garden City Association's scheme for providing proper housing and suitable occupation for disabled sailors and soldiers was reported at the annual meeting of those interested in the promotion of the project, which was held at 2, Castle Street, Edinburgh, last Wednesday afternoon. The second annual report, submitted by Mr. Alexander Sim, the secretary, stated that at Longniddry twenty houses and two shops had been completed, and were partly occupied; in Aberdeen a site of 25 acres had been secured on moderate terms, and plans had been prepared showing how over 100 cottages could be advantageously erected; while another item of interest was the acquisition of ten four-roomed cottages and three acres of ground at Montrose. Lord Salvesen, moving approval of the report, stated that the association had collected £33,000 in the past two years, and he hoped the technical difficulties in the way of their obtaining their Royal Charter would be overcome. Owing to building restrictions, their work meantime would be more one of preparation, so that when the war was over an immediate start could be made with the building.

Major Victor Kershaw, who has been awarded the D.S.O., is a Burnley architect and surveyor, and has been serving with the Burnley "Pals" since its formation in 1914.

War Plumber (replying on the telephone to desperate appeal for replacement of a burst cistern):—"Well, madam, if the new cistern is urgently required for the front, and you can send us an 'A' certificate, we can probably tackle the job the week after next."—*Punch*.

The Editor of the *Decorator* has arranged to read a paper on Painting and Wood Finishing from the Engineers' Standpoint before the London Association of Foreman Engineers at the Cannon Street Hotel, E.C., on Saturday, March 9. Mr. Jennings's information is always practical, and he has the gift of lucidity which renders listening to him always pleasurable and profitable.

A meeting was held last Saturday at St. Paul's School, Hammersmith, to consider a draft scheme for a memorial of Paulines fallen in the war. It was agreed that the memorial should comprise a chapel at the School and the establishment of a fund to assist the education at St. Paul's School and the Universities of the sons or male dependents of soldiers and sailors (preferably Paulines) who have fallen, or of those whose circumstances have been reduced owing to the war.

THE BUILDING NEWS

AND ENGINEERING JOURNAL.

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Strand, W.C.2.

OUR ILLUSTRATIONS.

London County Council Scheme for the better housing of the working classes, White Hart Lane Estate, Tottenham. Plans, elevations, sections, and two views. Mr. W. E. Riley, F.R.I.B.A., Superintending Architect to the London County Council, Architect.

The Lounge of the Orient Line s.s. "Orvieto." Mr. Andrew N. Prentice, F.R.I.B.A., Architect.

The Staircase Entrance, Hotel de Lashordes, Place des Carmes, Toulouse, France. Nicholas Bachelier, Architect (b. 1485, d. 1572).

Currente Calamo.

All works intended for the annual exhibition of the Royal Academy must be punctually sent there on one of the days fixed for their reception. These days this year will be:—Water colours, pastels, miniatures, black and white drawings, engravings, and architectural drawings, Thursday, March 28; oil paintings, Saturday, March 30, and Tuesday, April 2; sculpture, Wednesday, April 3. No work will under any circumstances be received before or after these specified dates. All works must be delivered at the Burlington Gardens entrance. None will be received at Piccadilly entrance. Hours for the reception of works, 7 a.m. to 10 p.m. All works sent from the country or from abroad must be consigned to an agent in London for delivery at the Academy, unpacked, on one of the appointed days. Account should be taken of the present difficulties of transit. No works in cases will be received, nor will the expenses of carriage be defrayed by the Academy. The attention of foreign artists and of English artists residing in the country and abroad is especially called to this regulation. No photographing or copying of works will be permitted on the premises of the Royal Academy. No artist is allowed to send or exhibit more than three different works. Each picture or drawing must be in a separate frame, or if a series of drawings from one story be at any time admitted in the same frame, they must be enumerated as distinct pieces. A case of sculptured gems will be considered as one work, provided the size of the case does not exceed six inches by five inches; and a case of medals or plaques, each of which is not more than seven inches in its widest dimensions, will be considered as one work, provided the size of the case does not exceed three feet by four feet. Miniatures must be in separate frames, uncased, and enumerated as distinct pieces. All pictures and drawings must be in gilt frames. Miniatures in frames set with jewels are inadmissible. Oil pictures must not be sent in under glass, but any oil picture not more than thirty square feet superficial measurement obtaining a place on the line may have a glass put over it if so desired on an appointed day before the opening of the

Exhibition, of which due notice will be given. Excessive breadth in frames or margins, as well as projecting mouldings, may prevent pictures and drawings obtaining the situation they otherwise merit. The frames of engravings and of works in black and white must not exceed one inch in breadth. Oval frames should be avoided, as they are difficult of arrangement. Reliefs should be framed. By a special regulation for the Summer Exhibition of 1918, photographs of architectural work will be admissible this year. The size of the photographs must be not less than 12 in. by 10 in.; they should be framed in slight wood frames, with or without mounts, which may be tinted. No frame and mount together to be more than 4 in. wide. Two photographs of the same building may be included in one frame. Photographs of architectural sculpture will also be admitted under similar conditions.

In the complexity of commerce there were, when war broke out, many German members of British firms and German companies acting as practical partners with English concerns. It is now clear that the declaration of war dissolved these partnerships, but what then became of enemy interests therein? In the recent case of Hugh Stevenson and Sons, Limited, against a German company with whom there was such a partnership, this question was considered by the House of Lords. The final judgment now given confirmed that of the Court of Appeal, but what we wish to note is the largeness and lucidity of the principles as laid down by the Lord Chancellor for general application in all such similar cases. In deciding between the British and enemy partners he said that the question did not depend upon any contract, but on the rights of property which these partners had in the assets of the firm. That was, indeed, a broad basis upon which to build; far broader and better than we are used to in law courts, where technicalities seem mainly considered. This was a manufacturing business, and, when the war began, the British partners carried it on, using the machinery of the firm. The German partners, of course, could not claim any of the profits made in this way. But, as the law of this country did not confiscate the

property of enemy subjects, then, although the German partners could have no claim while the war lasted, yet, when peace was restored they would be entitled to their share of the assets with any fruits these may have borne in the meantime. In other words, the German partners will, when the war is over, be able to obtain the value of their share of the assets, and some allowance for the use made meanwhile by the British partners of their machinery in carrying on the business. This all seems simple enough as thus stated, but until the case got to the House of Lords these principles were not laid down so plainly.

The City Coroner (Dr. Waldo), in summing up on the 29th ult. at an inquest on a man killed through falling down the well of a lift at Camomile Street, City, E.C., said in his annual return for 1916 to the City Corporation—not yet printed or published—was the following:—"As regards other deaths due to accidental causes, fourteen were due to lifts. Of this number ten occurred in the City and four in Southwark. The majority of these deaths followed a fall through the lift well. Defects in the doors and in the mechanism generally of the lifts, together with the absence of proper safeguards, and inefficient and careless use of the lifts, lead frequently to these, in most part preventable, deaths. I am of opinion that all lifts should be placed under compulsory regulation and periodical inspection, with a view of preventing unnecessary loss of life and limb." The Coroner added that he had just made up his statistical return for the year 1917, and found that during this period he had held inquests on ten deaths due to lift accidents, of which number eight occurred in the City and two in Southwark. This showed a decrease of four deaths as compared with the year 1916. Again, it was noteworthy that the majority of the ten deaths were due to a fall through the lift well. He did not know how many accidents, short of death, happened annually from defective lifts. The number must be considerable. He agreed with the two experts as to the usefulness of automatic clamps in connection with the rope by which hydraulic lifts like the one at Camomile Street were raised and lowered. The valve, if not

perfectly closed, owing to leakage, caused the lift to move up or down. He had had many such cases before him. The jury, in returning a verdict of "Accidental death," added the following unanimous rider:—"We (the jury) suggest the use of an automatic clamp in future, and we agree with the Coroner, and are of opinion that all lifts should be placed under compulsory regulation."

There is freely expressed the opinion that one building, at least, damaged by the air-raiders in London during last Monday week's attack was by no means suitable as a shelter; and it is asked what guarantee there is that some others may not be similarly unfit and unreliable. Very little, we fear. It is suggested by some that shelters should be classified in order of their safety, but one possible result of such a step might be the flocking of crowds to A1 shelters and more panics. It is also said that the regular system of inspection in the City of London carried out by competent architects does not extend over the whole of the metropolis. It would certainly seem desirable, with the probability of more raids before us, that it should, and that death-traps should be as few as possible. The kindness of heart which has prompted the readiness of many occupiers to permit recourse to their premises for shelter is most laudable, but it should certainly be seconded by some assurance that reasonable safety in such is likely, and that competent judgment shall decide whether that is the case before the invitation is permitted.

Indian Engineering, in its issue of Dec. 8 last, gives a portrait and some interesting particulars of Mr. James Ransome, F.R.I.B.A., the first consulting architect to the Government of India. Mr. James Ransome was born in 1865 and was educated at Rugby. His father was the founder of the firm Allen Ransome and Co., of Newark-on-Trent. He himself spent some six months in his father's foundry with a view to training for a position in the works, but wished to be an architect, and was articled to the late Mr. C. H. Driver, of Westminster. Later, he entered the office of Sir Ernest George—then Ernest George and Peto—and in this office Messrs Baker and Lutyens, whose names are now so well known in India in connection with new Delhi, were co-temporary fellow-students. At the age of twenty-one Mr. Ransome obtained his first commission, a house for Lady Walkin Walker at Pinner, and on the strength of this and an invitation to remodel "The Oaks," a famous old house formerly belonging to the Derby family, he established himself in London, and continued in independent practice until he was offered the appointment of consulting architect to the Indian Government.

Mr. F. E. Bradley, M.A., LL.D., F.R.S.E., barrister-at-law, has been elected to the Court of Assistants of the Company of Glaziers and Painters of Glass.

"WHERE THE GREAT CITY STANDS."

In our issue of December 19 last we reproduced a double-page illustration of the Ruislip Garden City, designed by Mr. C. R. Ashbee for the estate of King's College, Cambridge, and announced then that it would form one of a series of over a hundred and twenty in his new book then about to appear under the above title. The volume is now published at one guinea net by B. T. Batsford, Ltd., 94, High Holborn, and its object is to point the way to reconstruction after the war on what we believe with all our heart is the only basis that will ever bring health and wealth to the English-speaking peoples.

Mr. Ashbee is well known to our readers as an architect, designer, and craftsman who for twenty-five years has devoted himself to the development of the arts of the City, and his experience and study of English and American cities is probably unrivalled. He has also the gift of getting to the hearts of his readers to a degree unequalled since William Morris left us. He traces the æsthetic movements through which Europe passed before the war, and shows how inevitably they brought about the catastrophe. Morris, as all know, prophesied the cataclysm, but identified it with revolution here at home, failing, like most of us, we suppose, to believe it possible that German truculence and British blindness could ever contribute so calamitously to the upheaval. He taught us, as Mr. Ashbee persists, and as we for the past quarter of a century have declared, that the "prosperity" of great combinations at the expense of the craftsman, and the blind negation of and resistance by capitalist and worker alike to all constructive enterprise and to all new ideas, must sooner or later destroy our so-called civilisation, and that the only deliverance from a relapse into brutal barbarism must be sought on the methods of the Arts.

It may be, as Mr. Ashbee reminds us, that the few of us who believe this will share the fate of Erasmus, who proclaimed the same views at the break-up of the Middle Ages, and of Plato and Thucydides, who foresaw the collapse of Hellenism. At the moment, with our museums and schools and workshops closed down, with great purposes laid by or abandoned, and the creative enterprise of a generation apparently thrown away, the optimistic folly of the ignorant and the quackery of the politicians will prevail, and presently provoke a struggle as suicidal as it will be appalling. Frankly, our only hope, with Mr. Ashbee, is in the young men at the front, and that when they return they will not allow the sacrifices of their comrades, and the fruits of their valour and endurance against the powers of evil to be thrown away, either at the demands of reaction or the threats of the anarchist. If we are wrong—if London is to repeat the welter at Petrograd, if disintegration is the only gospel of the near future, as Le Bon and other French Socialists assure us, then it is all the more our duty to "die in the last ditch," appealing with our last breath to the idealists who believe more or less reasonably in the possibility of the finer life—the life of Industrial Democracy—to stand boldly in the breach, believing still that defeat is impossible.

In our own experience of the "movements" of the past fifty years, the cause of their failure has been the partial views of truth held by their adherents, almost always the fruit of inability to conceive or understand basic principles. Mr. Ashbee's readers will have themselves to thank if they, too, wander away into the limbo of lost causes, haunted by the ghosts of impracticable dreamers and visionaries.

The ten axioms on which he bases his book are solid and true. First of all, he points out that modern civilisation rests on machinery, and no system for the encouragement or the endowment or the teaching of the arts can be sound that does not perceive this. Next, that the crafts cannot be learned in the school, but only in the life of the workman in the workshop. Then he explains the purpose of the "Arts and Crafts" (understood as an æsthetic movement) as the effort to "individualise," to set a standard in all commodities in which the elements of beauty enters. The tendency of machine industry, of course, is to "standardise"—that is to say, to create as many pieces of any commodity to a given type as is economically possible. That there is a "Gresham's Law" in the industrial arts as there is in coinage is certain. Just as in the latter bad coin tends to drive out the good, so in the former the bad product tends to drive out the good product, and the unskilled workman and the machine tend to drive out the skilled workman. Nevertheless, machinery is neither all good nor bad. An intelligent community will distinguish which is which, and the æsthetic education of the community in our day should be directed towards the distinction between the good and the bad. During the last twenty-five years that distinction has been made in many trades and crafts, and, where machinery is used beneficially, the resulting new relationship of man to life finds its fullest expression in the new life of the city; and, through the city and its proper adjustment to mechanical conditions, more may, and should, realise those finer values which the arts bring into life. So far man's control of mechanical power has yet to be made really effective. The invention or exploitation of new processes must be followed by the discovery how such processes shall be best used in the public service, and not merely used by men to exploit each other. As Mr. Ashbee pithily puts it, "As Hellenic civilisation made the gentleman with the aid of the slave, so we may make the gentleman with the aid of the machine." Certainly, at present, the arts postulating, as they do, the motive of joy in their creation, and the freedom of the individual to go on creating, do not flourish under conditions where men think it right to exploit them for profit. Lastly, Mr. Ashbee assures us that in an industrial civilisation the reconstructed city cannot be stable without a corresponding reconstruction of the country, but that town and country must be correlated and react upon one another, such correlation being a necessary consequence of the conditions of machine industry.

Throughout thirty-one chapters Mr. Ashbee explains and illustrates the incidence of his axioms. First he shows how the art influences of our time came to us, emphasising the fact that the doctrine of Evolution is as true in Art as in Science, and that if we practise an Art that is no longer in and of our time, that Art is of little consequence. Then he analyses the great Mid-Victorian influences on æsthetics of the English Pre-Raphaelite painters, and traces and explains the resulting idea behind the Arts and Crafts movements, which, as he says, though it did not revolutionise modern industry, rediscovered the small workshop. Then the work of the Impressionists is reviewed—great of its kind, doubtless, but scarcely worth the price paid for it, for it meant the drawing apart of the painters from the other arts, and they became a rather exclusive caste, and lost touch with the greater social forces of life.

Chapter vii., on "The Progress of Architecture," will specially interest the majority of our own readers. Mr. Ashbee laments that the "Arts and Crafts" movement hesitated, halted, and broke down from want of effective organisation," although it "left a few fine examples in a small way," among which he cites the early work of Lutyens, Lethaby, Prior, Detmar Blow, Ricardo, Holden, Cecil Brewer, and one or two others. Arts and Crafts architecture, it is declared, "was finally swept on one side by the eighteenth-century revival, the Neo-Georgian," which is discussed later in Chapter ix., and for which Mr. Ashbee has little love, denying point-blank the claim of Mr. Reginald Blomfield, and others who build in English Renaissance, that theirs is an essentially English tradition, and declaring that there is no more justification for such a claim than for any other form of building that has appeared in this country before. He reminds us that his master in architecture, G. F. Bodley, made the same claim in an earlier generation for English Neo-Perpendicular.

"What William Morris stood for" is well summarised in Chapter x. Where his art was constructive, as in "those wonderful shops at Merton" his Socialism was iconoclastic. He wanted Industrial Society destroyed because it was unsympathetic to the arts and to the point of view in life for which he and all artists stood. Thus viewed, Mr. Ashbee considers Morris the greatest force of our time, because he contained within himself and in his life the parable of the artist in Industrial Society. "The artist says: 'Either you make it possible for me to live, or I destroy you and this world you are creating. I am the soul of your city: without me the great city has no place.'" We remember taking Keir Hardie round the shops at Merton in 1886, and noting, not without some little surprise, as we discussed their purpose and control, that much the same estimate of the aims of their founder had been formed by him. To us and to most others who knew him the enduring message of Morris was certainly not devoid of consolation, surely needed to-day?

"Meanwhile, if these hours be dark, as, indeed, in many ways they are, at least do not let us sit deedless, like fools and fine gentlemen, thinking the common toil not good enough for us, and beaten by the muddle; but rather let us work like good fellows, trying by some dim candle-light to set our workshop ready against to-morrow's daylight—that to-morrow, when the civilised world, no longer greedy, strifeful, and destructive, shall have a new art, a glorious art, made by the people and for the people, as a happiness to the maker and the user."

The remaining chapters of the book are equally fertile in suggestion and masterly in treatment. The housing and town-planning movement and the Garden City are discussed, and in Chapter xvi. we get the answer to "the practical man," who wants to know how the "Great City" is to be built so as to realise the artist's ideal. That answer to "the practical man," of course, as Mr. Ashbee says, can only be a partial one, because "the practical man" is himself only in part civilised; but what we can do, even as things are, is shown and with force and reason that should carry conviction. Other pregnant chapters are those on the waste in education and in industry, and on the co-ordination in the city as against competition. In others comparatively side issues of the main theme are traced, and always lucidly and with knowledge. The volume, in short,

is one which many will read and re-read with thankfulness, if only for the wholesome distraction it will afford from the troubles of the times, while all will value it as a treasure-house of varied but ever-welcome illustrations which Mr. Ashbee has embodied in his book, and which are reproduced as suitably as the production of the work is creditable to all concerned and worthy of the permanent place it will take on the bookshelves of all cultured buyers.

THE ARCHITECTURE OF GREECE AS I SAW IT.*

The threads of architecture prior to the Hellenic period of Greece (of which I am treating to-night) were isolated, yet there was not an entire absence of unity in the expression. Similar principles in the main prevailed. India, Persia, Cyprus, and Crete were linked together and made their contribution; while the great and intimate commercial relationships established in the seventh century B.C. (if not earlier) between Greece and Egypt meant close acquaintance with Egyptian art, which added inspiration to the natural instincts of the Greek. A geographer, not long ago, drew attention to the fact that in very early days the Eastern Mediterranean was allied with great trade routes which passed through Afghanistan and Persia, and, moreover, along places where no commercial caravan thinks of going to-day; and I think you will agree with me that the rich and prosperous merchant-navy of the Phoenicians in all likelihood conveyed illustrations of Assyrian art that aided the forms of certain Greek enrichments.

Yes! modern life is not the only life that has known travel, and though Prof. Rawlinson in his recent work has emphasised that India and the ancient European world had little to do with one another; he also reminds us that Indian soldiers accompanied Xerxes' army and passed through Thermopylae, and thus fought in Europe more than 2,000 years ago, so that it is not outside the range of probability that Greek artists may have visited the granite-hewn temples in India.

But, of course, it is essential, in order that the basis of highest art should be securely and emphatically laid, and of a nature to receive the destined super-structure, that there should be a period of highest concentration. Some 600 years B.C. there were indications that Greece had been chosen for that concentration, therefore on that relatively small area—practically of the dimensions of Scotland—there centred inconceivable intensity. Then, in the Divine economy, there are periods when there seems to be not a moment to spare, and the nurture of architecture at the hands of the Greeks was of this order. As Ferguson has forcibly pointed out: "All the wonders of patriotism, poetry and art for which Greece is famous were crowded into the short space of a century and a-half—between the Battle of Marathon, B.C. 450, and the peace concluded with Philip of Macedon, B.C. 346—and mostly within the fifty years which succeeded the Persian War." Further, there was concentration of idea and contentment (as all are fully cognisant) with relatively few main units of architectural expression. As one has well said, referring specifically to sculpture, "to the Greek artist there was no such thing as impatience or fretfulness, because new things were not perpetually being invented. A beautiful thing once done could not be too often repeated, and he never tired of seeing them; for instance, it is said that over 100 copies were made of the Venus of Praxiteles."

But this contentment did not imply paucity of range of power, for when the appeal came to display something of the magnitude and glory of the ancient state in the friezes and pediments of the Parthenon, there were grouped in matchless design and execution in friezes about 3 ft. in height, some 350 figures of men and women, and about half that number of horses and sacrificial animals, portraying gods and goddesses, youths,

dancing girls, flute-players, and other musicians, priests and priestesses, soldiers, groups of cavalry, charioteers and knights, victors and others (not two figures alike), and, from the great variety of degrees of dress, appearing as if all had been summoned in the dead of night and every one had hurriedly put on such garments as were near at hand. And it should ever be remembered that the figures of those friezes have a relief of only an inch and a-half. All may not be aware that these sculptures of the Parthenon, of which the Elgin marbles in the British Museum formed a part, were the result of a competition, and, moreover, such a one as reads like modern newspaper copy. Phidias, who in the first instance was an unsuccessful competitor, appealed against the judge's award on the plea that the models submitted were placed for judging on the ground—and not some fifty feet above—at the height the sculpture was intended to occupy in the temple. His objection was allowed, and when all the models were thus placed the work of Phidias was adjudged the best, and the commission entrusted to him.

It was in the height of summer, the season in which the ancient Greek artist revelled, that I saw something of the architectural and sculptural achievements of Greece while experiencing intensity of heat such as never before. Quite early in life I had sketched and measured as far as practicable a capital of the Parthenon in the British Museum, and become familiar with the classic wealth—original and copy—in Sir John Soane's Museum, and revered Inwood's church of St. Pancras. By way of parenthesis, one effect of early observation of ancient and modern treatment of classic mouldings was personal revolt against the ogee or cyma—recta and cyma—reversa, with the result that four large buildings at least have neither of these mouldings in their external composition. And my visit to Greece has not meant reconciliation to their use.

But to see the art of Greece to greatest advantage one needs to train his eyes by the voyage from Brindisi to Patras and the skirting of the Gulf of Corinth; for, as John Addington Symonds says in language that is not imaginative but intensely real:—

"In Greece there is light, not richness, or sublimity, or romantic loveliness, or grandeur of mountain outline, but luminous beauty: serene exposure to the air of heaven. The land, without the sun, is asleep and sorrowful. But it is always ready to take the colours, both of the air and of the sun. In noon day the land smiles with silvery lustre, fold upon fold of the indented hills and islands melting from the brightness of the sea into the untempered brilliance of the sky. At dawn and sunset the rocks array themselves with a celestial robe of rainbow-woven hues; islands, seas, and mountains, far and near, burn with saffron, violet, and rose, with the tints of beryl and topaz, sapphires and amethyst, and each in due order and proper distances. In a word, Greece is open to the magic of the sky."

And the luminosity of Greece gives to architecture and its sister arts of sculpture and painting, both in the mass and detail, a peculiarly defined sharpness of outline and texturing of surface; and whatever the origin of the yellow and brown patina upon much of the marble of the ancient structures, the effect of the play of light thereon is of high artistic order.

While preferring only the use of white marble, there was no doubt that colour and gilding were very largely applied by the ancient Greeks to the external surfaces of both buildings and statuary; but in any criticism of such it should be borne in mind that other peoples—including ourselves—introduce external colour direct by use of variously tinted building materials. But colour in Greece creates an impression of its own, and possibly the best instance of this was brought home when standing before the modern University of Athens. On the inner wall of the colonnade, extending downwards nearly half the height, is a brightly painted frieze of mythological scenes. In northern Europe decoration in such a position would be practically negligible, if not entirely lost in deep shadow, and even in such a climate as ours effective at only a short range; but in the

* A Paper read at the general meeting of members of the Royal Victorian Institute of Architects by William Lucas (F.), F.R.G.S.

Athenian atmosphere these decorations are clearly visible at a distance of several hundred feet. From what I have mentioned, any to whom the subject is new, will readily see that the effect of luminous shadow upon mouldings means gradations of unaccustomed character, and such as do not prevent seeing the full profile of members, including their quirk.

One morning at four o'clock, in the darkness I fixed my eyes in the direction of the Acropolis. Fifteen minutes later the mount was in pure silhouette outline, and while continuing to gaze intently upon that view of semi-darkness—prior to the rising of the sun—the play of atmospheric effects about the dim mass was peculiarly impressive. The base line of the upper heights became a mass of purple blue, from which there arose an ochrey blue that extended on to the tableland and enveloped its architecture as the overarching cloudless sky took on an unusual shade of light blue. Then, shortly after five o'clock, the sun peered over Mount Lykabettos, sharpening the massive outline, and revealing the main points of the structural remains.

Next, the tints of the earlier hour began to mingle, till blue, and ochre, and purple were superbly blended; and thus the first shadows of another day were gradually evolved, bathing anew the matchless composition in the purest flood of light and shade conceivable.

As the sun rose higher and higher, and southwards, playing about rock, and rampart, and temple, and exhibiting in the several features various degrees of light and of shadow, the scene fast became—to me—in-describable. The moon still shone, and in conjunction with a solitary cloud that had become visible in the brilliantly blue sky, added picturesqueness. Deep ochrey richness of temple marble, bronzed-browning of rampart, and sienna-like texturing of rock spake in harmony—all exhibiting such delicacy and softness that what was human in the composition seemed dather to have been directly sketched into the landscape by Phidias and his small band of brother architects and sculptors goaded with beauty, than built of anything material by the hand of labour. So keenly was all blended in unison.

As various views were being thrown on the screen, Mr. Lucas stated *inter alia*: Skirting the Gulf of Corinth natural beauty appeared to reach its limit, and he thought it would be hard to disprove the claim that "there is no more beautiful bay in the world than the long fiord leading up to Corinth." The Corinth of the ancients had an exceptionally splendid situation, and by reference to a plan prepared by the American Archaeological Society in the local museum a very correct impression of the city was gained. In the coarse limestone remains of a temple was the oldest existing specimen of the Doric order.

Modern Corinth was on a totally different site, and had quite an Eastern character in its squat flat-roofed buildings, whilst in the nature of a suburb was Palmyra, one of the most famous watering-places of the Near East.

The Piræus, essentially active in the shipping world and in manufacture, was the first town in history to be laid out on a rectangular plan.

Athens of to-day was a capital of about 150,000 inhabitants, and well merited Frederic Harrison's remark:—"A really beautiful city, possessing Parisian brilliancy, modern luxury and convenience, spacious boulevards, piazzas and gardens." Between that and the Acropolis lay the Byzantine city, a mass of irregular planning and heterogeneous construction, with, however, a charming little church of that period. Within the bounds of this Byzantine area were several of the classic structures, including the oldest example extant of the Corinthian order—embodied in the Choragic Monument of Lysicrates—also the Tower of Winds, which most happily terminates the vista of one of the modern city's finest thoroughfares. So dry was the air of Greece, that in the slightly relieved sculpturing of those two small structures one realised what little effect throughout the centuries atmospheric conditions had wrought on Greek marble.

Standing in solitary grandeur in truly wonderful preservation, mainly due to the

upkeep and regard it had ensured by very early conversion into a Christian Church, was the Theseum; whilst in another direction from the Acropolis, also on an open plain, only fifteen of the great columns of the Temple of Jupiter remained in position with one lying on the ground, out of the 120 or thereabouts comprising the completed structure. Near by was the Arch of Hadrian possessing a considerable element of quaintness, and from it there was a good view of the Stadium with its immense terraces containing forty-seven rows of marble seats, restored by princely generosity.

The portico of the Agora of Doric order was peculiarly interesting as being the market-place where St. Paul disputed with the men of Athens. It was erected with the donations of the Emperor Julius and Augustus, just prior to the Christian era.

On the slopes of the Acropolis were the Theatre of Bacchus and the Odeum of Herades Atticus. In the former, assemblages of 15,000 persons had sat on seats excavated in the mountain side cased with marble, in the age of Pericles. The latter, a memorial music theatre, with accommodation for about 6,000 persons. Being of the second century, its architecture was largely influenced by Rome. The Street of Tombs with some chaste memorials in situ, and what remained of the Library of Hadrian, were very impressive.

As to the Acropolis and its unique wealth. Mr. Lucas had naturally much to contribute. A portion of that wealth embodied in the Elgin marbles, which had cost Lord Elgin some £70,000, was among the most valued possessions of the British Museum. Of a bit of sculpture among those marbles, one of the highest British authorities had declared "that the back of the Theseus was the finest thing in sculpture in the world, and yet while in its place in the pediment of the Parthenon that portion of the figure could by no possible chance have been seen."

The summit of the Acropolis was a surface of crystalline limestone rock of subdued tints, without any soil whatever save a little that had been blown into crevices here and there. In places this meant nourishment for a small trailing plant, but, so unlike Rome, no foliage clusters about the ruins of Athens. The original fortress entrance early made way for the Propylæa—the bold conception of Doric and Ionic columns, wall surfaces, and steps and platform. To the left was the chamber that had housed the exquisite paintings of Polygnotus. The Temple of Victory, which had been discovered in comparatively recent time—the various parts having been built into a Turkish tower—was now in the main re-erected in the original position. The Erechtheion—the perplexing building of Greece—with caryatides, northern doorway, varying floor levels, and irregular plan, it was the most venerated of all structures in Athens. As to the irregular plan. Dr. Dorpfeld believed little more than one-half of the original design had been erected. The Ionic order of the Erechtheion was the most perfect extant.

Both in plan and elevation, the acme of Greek art, the outcome of intense mental effort was reached in the Parthenon; and though relatively by no means an unusually large building, enormous labour had been incurred in the quarrying, transport, and erection of material, especially through the favouring of great blocks of marble from Mount Pentelicon. For instance, the columns are six feet in diameter and thirty feet high, generally in twelve single drums. One block lying on the ground measured seventeen feet nine inches by four feet five inches by two feet three inches.

Alluding to modern structures, it was stated these were essentially based on classic Greek, treated in a subdued manner, and practically all of marble wrought to a fine textured surface without polishing. The emphasis of entrance, whatever the nature of the building, seemed most pronounced, and suggested that the majestic doorway of the Erechtheion had determined the high tone of all doorways in the modern city. Following the supremacy of the doorway, was external colour treatment, and, as with the

ancients, the two colours mainly used to-day were a dark red and a cobalt blue. The National Museum with its well-planned foreground; the University with its very fine hall and some 2,500 students; the Academy of Science, erected at a cost of about £100,000 as the gift of a devoted son of Greece; the House of Parliament, where so much centred of import to our Empire; and the Royal Palace, with its stately Doric colonnade, were worthy of any metropolis.

BYZANTINE ARCHITECTURE IN THE WAR ZONE.

Lecturing at the Carpenters' Hall, London, last Wednesday evening, Sir Thomas G. Jackson, Bart., said that nearly all the principal monuments of Byzantine architecture were now within the war zone. When the Roman style of architecture began to melt into new forms, in the Eastern empire, the Latin tradition gave way to influences from the East, and the dome became the principal feature. The basilican church ceased to be built in Constantinople, so that now only one remained, and that in ruins. When Saint Sofia was rebuilt after the fire of 532 A.D., a task was essayed and successfully accomplished, which had never been repeated—that of constructing a dome with a diameter exceeding 100 feet over a square base. Outside appearances appeared not to have been studied in the Byzantine churches; all the decoration was reserved for the interiors, which had a loveliness of their own. The effect of the interior of Saint Sofia was imposing. An unbroken floor span of 200 feet by 100, and a height of 180 feet to the summit of the dome, made it unlike any other interior in the world; while the splendour of the marble columns and wall linings, with the beauty of the sculptured capitals, mosaics, and other decorations, was overpowering. Prokopius, who watched the building rise from its foundations, broke into rhapsody. "Men rejoice at what they see in the temple when present, and extol it when they go away," he said.

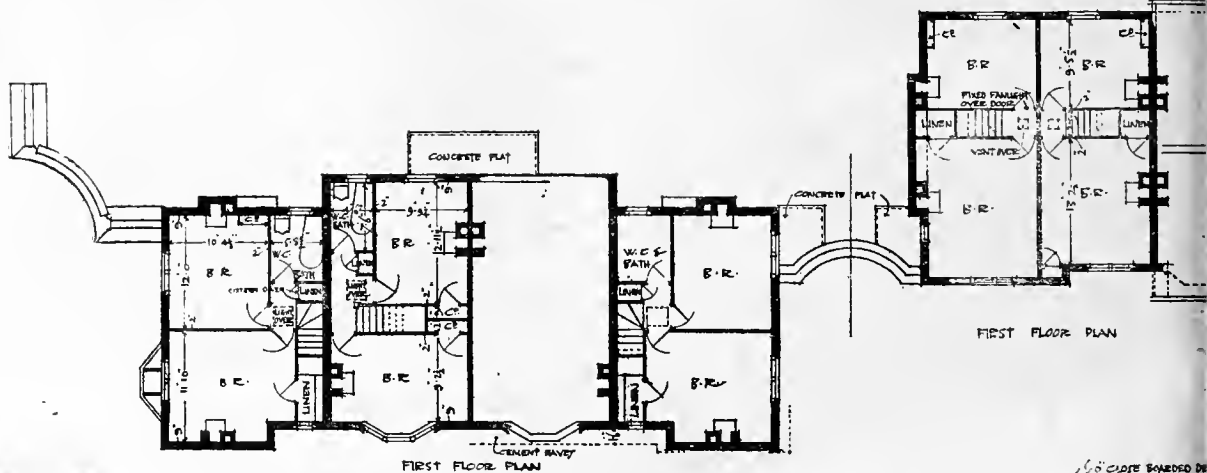
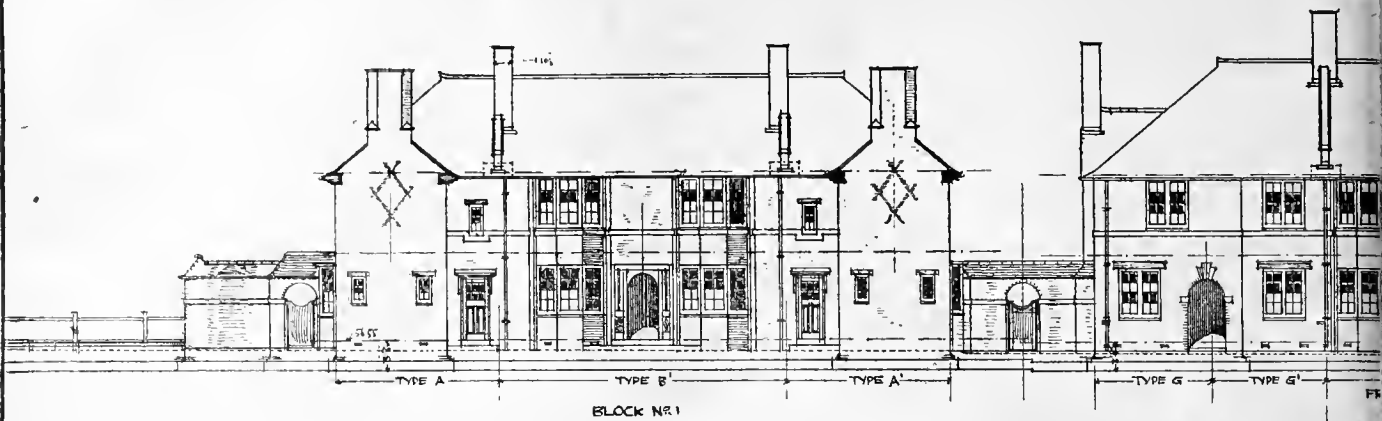
The lecturer described a number of Byzantine churches illustrating his remarks with lantern slides. The extreme plainness of the outside of the earlier churches was, he said, varied in the case of Saint Saviour Pantepotes at Constantinople, and Saint Elias, and the Church of the Twelve Apostles at Salonika. At a later date the same kind of decoration was copied and developed by the Serbian churches, until the effect at Saint Lazaretso, in Krushevatsh, was almost startling. This was one sign of originality presented by Serbian architecture at a period when Byzantine art was decadent. Unfortunately, the decorations of the interior of the Serbian churches had disappeared, having been done in fresco instead of mosaic.

OBITUARY

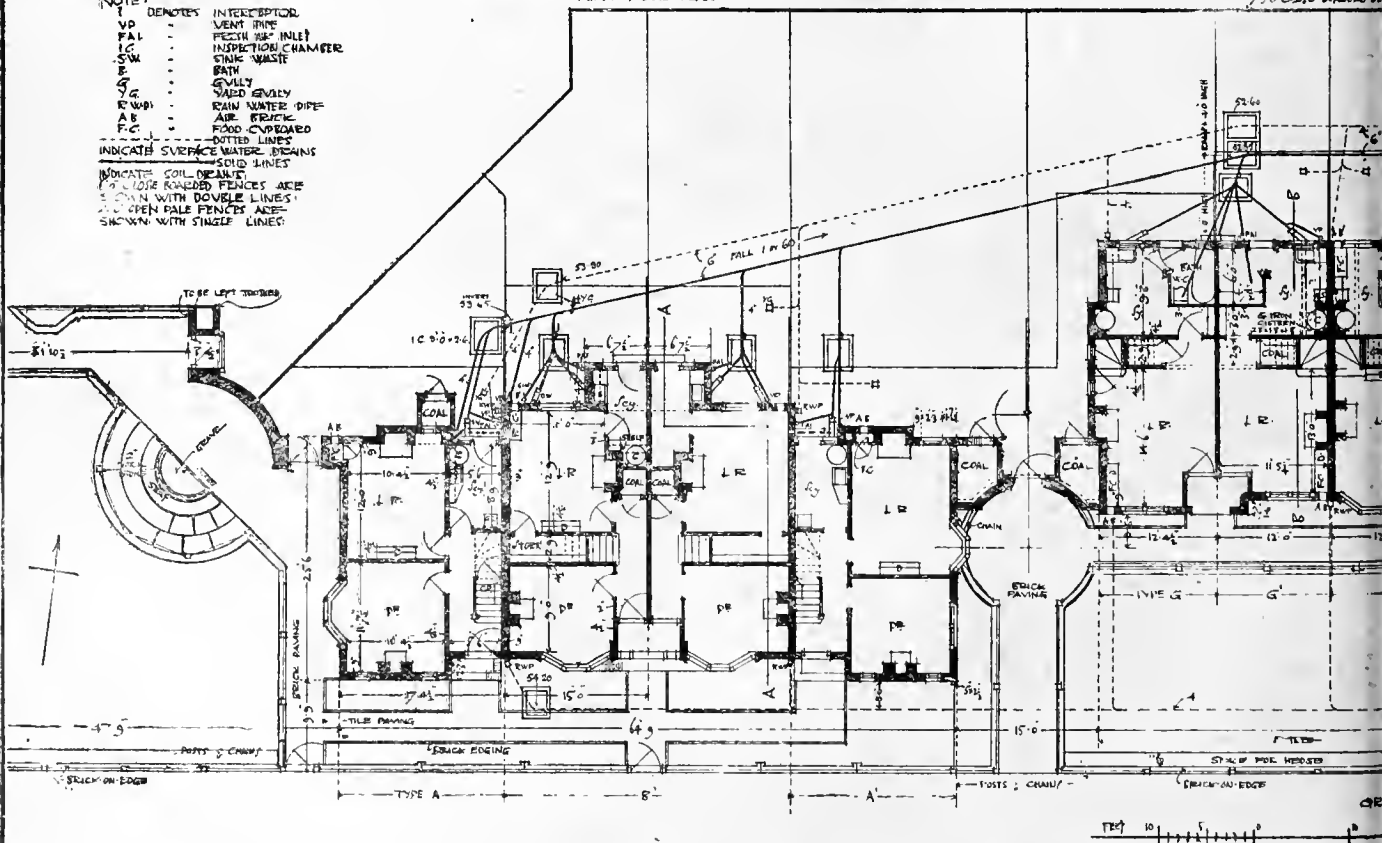
The death is announced of Mr. Francis Bond, A.R.I.B.A., the well known writer of books on Church Architecture, at his house at Croydon, last week. His "Gothic Architecture," published in 1905, was followed by "Screens and Galleries," "Fonts and Font Covers," "Misericords," "Dedications," and the Official Guide to Westminster Abbey. His most recent work was "The Chancel of English Churches," published in 1916. His fine collection of slides was recently bought for Harvard University. Mr. Bond was educated at King Edward's Grammar School, Louth, and went to Oxford in 1868. He entered New College, but migrated almost immediately to Lincoln on being elected scholar. He was for a few years a Classical Master at Christ's Hospital, then Second Master at Cowper-Street, Foundation School, and, finally, Headmaster of the Hull and East Riding College. He is survived by a widow, two daughters, and his eldest son, who is in the Diplomatic Service. His second son Charles (adjutant, 4th Lincolns) was killed in action.

Mr. H. Tilstone, borough surveyor of Brighton, and the doyen of the municipal staff, has had his salary increased from £500 to £560 a year, as from December 25 last, and further by two annual increments of £50.

L.C.C. WHITE HART LANE ESTATE : TOWER GARDENS SECTION :
BLOCKS Nos 1, 2 & 3.



- NOTE:
- | | | |
|------|--------------------|--------------------|
| 1 | DENOTES | INTERSECTOR |
| VP | VENT PIPE | VENT PIPE |
| FAI | FRESH AIR INLET | FRESH AIR INLET |
| IC | INSPECTION CHAMBER | INSPECTION CHAMBER |
| SW | SINK WASTE | SINK WASTE |
| B | BATH | BATH |
| E | ENTRY | ENTRY |
| W.C. | W.C. DRAIN | W.C. DRAIN |
| AB | AIR BRICK | AIR BRICK |
| FC | FOOD COUPERO | FOOD COUPERO |
- DOTTED LINES
INDICATE SURFACE WATER DRAINS
SOLID LINES
INDICATE SOIL DRAINS
DOSE ROUNDED FENCES ARE
SHOWN WITH DOUBLE LINES
OPEN PALE FENCES ARE
SHOWN WITH SINGLE LINES



Architectural drawings of a building, including a side elevation, a roof plan, and a floor plan.

The side elevation shows a long building with multiple windows and doors, labeled "BLOCK NO. 3". The roof plan shows the layout of the roof with various structures and labels like "CEMENT EAVES" and "ROOF PLAN". The floor plan shows the interior layout with rooms, corridors, and labels like "FIRST FLOOR" and "SECOND FLOOR". A scale bar at the bottom indicates 50 FEET.

Superintending Architect, L.C.C.

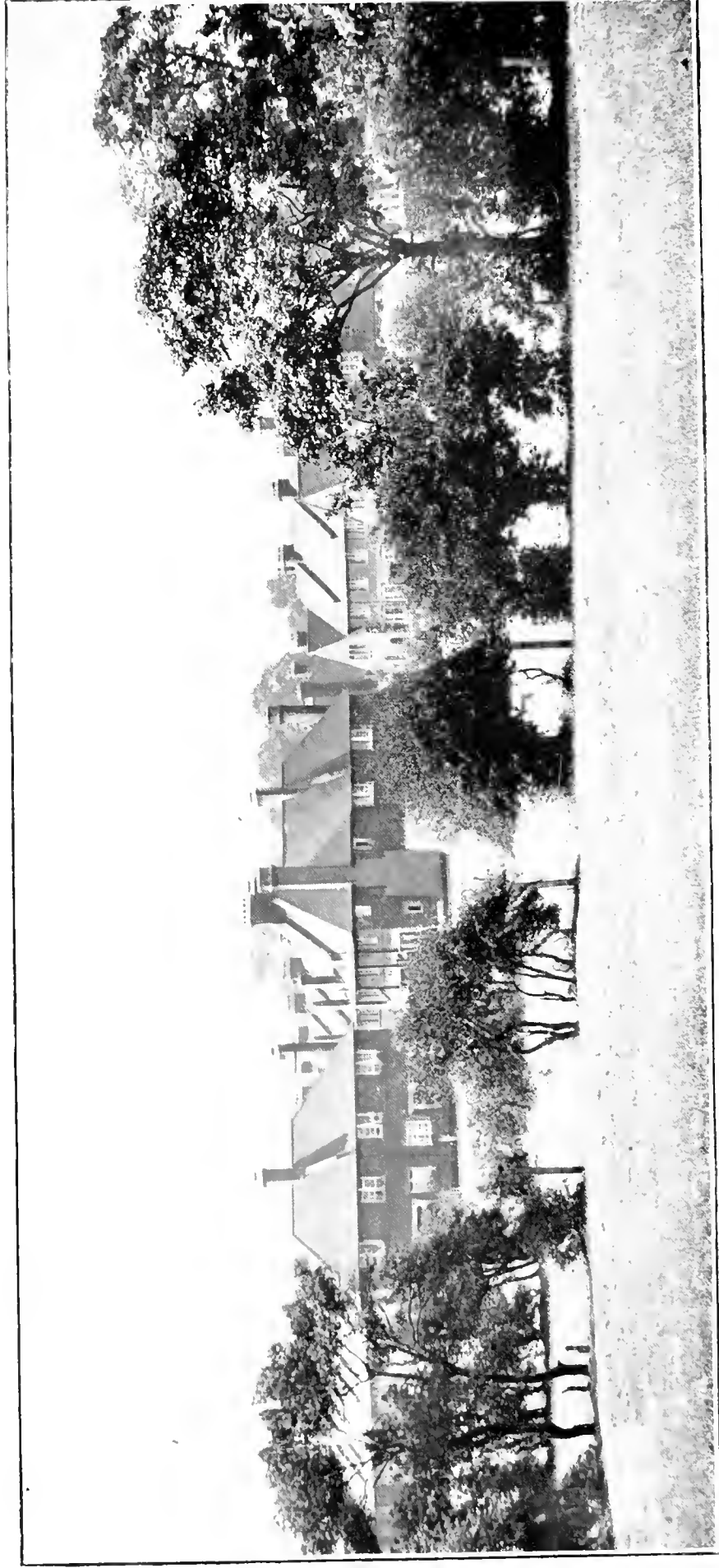


Mease, Bedford Le Moine and Co., Photographs.

THE LOUNGE OF THE ORIENT LINE S.S. "ORVIETO."—MR. ANDREW N. PRENTICE, F.R.I.B.A., ARCHITECT.

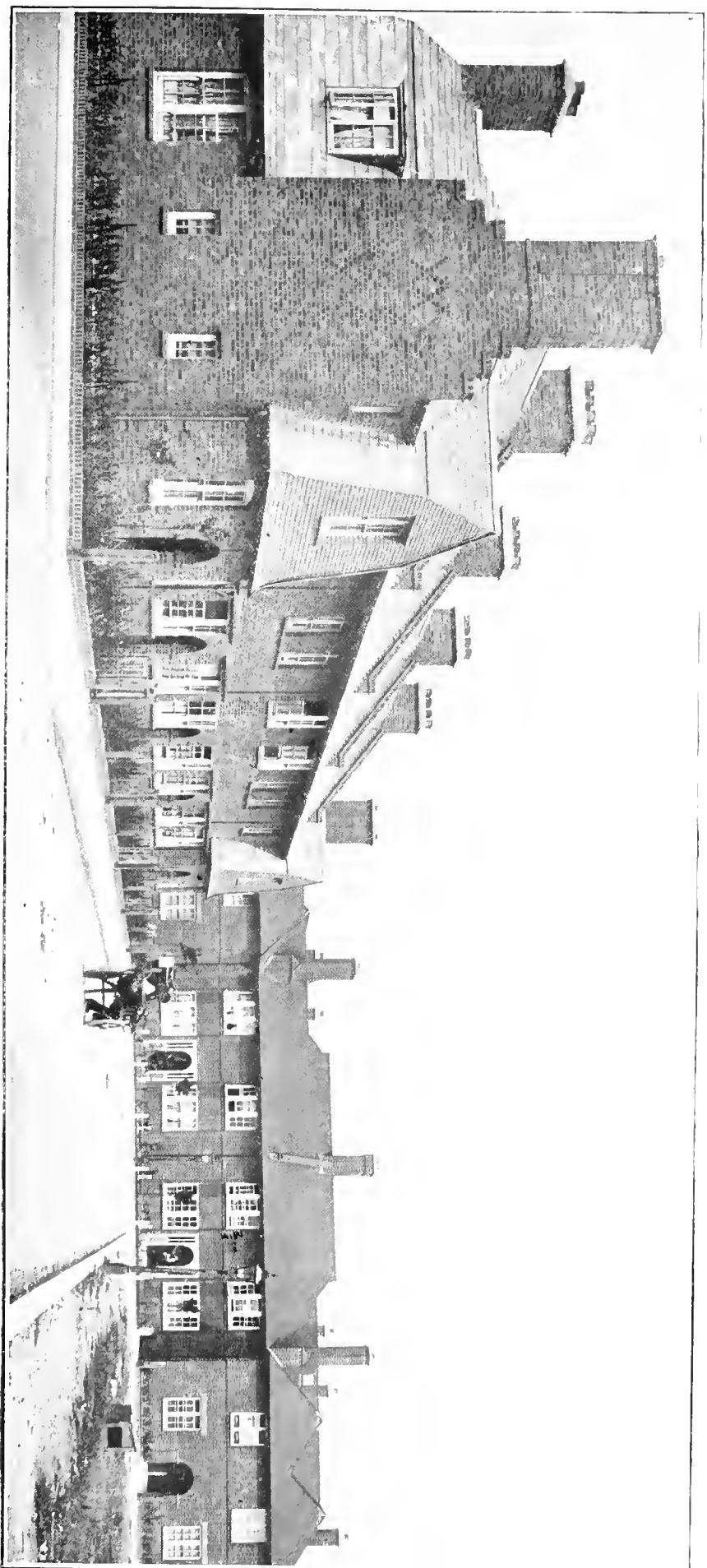


STAIRCASE ENTRANCE, HOTEL DE LASBORDES, TOULOUSE.
NICHOLAS BACHELIER, Architect.



LONDON COUNTY COUNCIL'S BETTER HOUSING FOR THE WORKING CLASSES.
WHITE HART LANE ESTATE, TOTTENHAM.

Mr. W. E. RILEY, F.R.I.B.A., Superintending Architect, L.C.C.



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Our Illustrations.

THE LONDON COUNTY COUNCIL'S BETTER HOUSING FOR THE WORKING CLASSES.

THE WHITE HART LANE ESTATE, TOTTENHAM

In our three preceding issues, dealing with the work of the London County Council for providing dwellings for the working classes, we have described and illustrated its estates acquired at Old Oak, Hammersmith, and at Norbury, Croydon. To-day we give illustrations of the White Hart Lane Estate, Tottenham, which the Council purchased in 1901 at the price of £400 per acre under Part III. of the Housing of the Working Classes Act of 1890. The site embraces 226 acres, the total purchase money having been £90,225. The property, which is about 6½ miles from Charing Cross, is one mile from Wood Green Station, and half a mile from Bruce Grove Station. The first contract was let in October, 1902, and work has been carried out under thirty-seven contracts. So far, 40.44 acres of the estate have been developed, including the laying out of the Tower garden, which covers 3.33 acres. The accommodation provided to date is one estate office, five shops, 262 five-room cottages at 9s. 3d. to 13s. 6d. per week; 364 four-room cottages at 8s. 6d. to 11s. 6d. per week; and 337 three-room cottages at 6s. 6d. to 9s. 6d. per week, making a total of 963 lettings, in each case including all rates and taxes. The total accommodation, taking two persons per habitable room of no less than 96 ft. superficial, is for 7,524 persons. The actual population, including children, in 1915, was 3,508, in 23.8 lettings per acre. The expenditure to date has been for developing the estate, including roads, sewers, etc., £55,246, and for buildings £216,310, making a total of £271,556. The five-room cottages cost from £220 10s. to £366; those with four rooms, from £187 to £306 15s., and those with three rooms from £150 to £281, including professional expenses. The average cost per room, including buildings and plans, was £57.3, and per foot cube £5.4. The loss by empties in 1916-17 was £57 2s. 9d., and the surplus on the year's working £2,101 8s. 11d. The work was designed by Mr. W. E. Riley, F.R.I.B.A., the superintending architect to the Council, and carried out under his supervision.

THE LOUNGE OF THE ORIENT LINE S.S. ORVIETO.

The Orvieta was built in 1910 by Messrs. Workman, Clark, and Co., Ltd., Belfast, and is the second vessel built by that firm for the Orient Steam Navigation Co., being a sister ship to the Oranto. The Orvieta is 554 feet in length, with a gross tonnage of 12,130 tons. Accommodation is provided for about 450 saloon and about 750 third-class passengers. The lounge, the subject of our illustration, is executed in silver grey wood, and, including the wrought-iron stair-railing, fibrous plaster ceilings and dome to skylight, was prepared and made at Cheltenham by Messrs. Martyn and Co. from drawings supplied by the architect, Mr. And. N. Prentice, F.R.I.B.A., of Norfolk Street, Strand, W.C.

STAIRCASE ENTRANCE, HOTEL DE LASBORDES, TOULOUSE, FRANCE.

The architect of this exceedingly refined example of François Premier domestic work was Nicholas Bachelier, who certainly exercised a considerable influence over the architectural development of Southern France during his time. He was born in 1485 and died in 1572. His father, a native of Lucca and a pupil of Brunelleschi, settled in Toulouse. He sent Nicholas to Italy about 1510, where he studied under Michael Angelo, and subsequently commenced work there as a master mason and sculptor, but after a while he returned to practice as a designer of buildings in Toulouse, for which town he erected the City Hall and built the Hotel d'Assezat. This work is handled in a restrained and decidedly Classical Renaissance manner, the job being one of his later commissions, dating, in fact,

about 1555. The Hotel Felzins, in the Rue de la Dalbade, another of Bachelier's buildings, is a much earlier example of his skill, and more akin in style to the Hotel de Lasbordes, which is regarded among this architect's masterpieces, distinguished as it is by a considerable amount of figure work, particularly in the court where the statue of an old woman is pointed out as the chef d'œuvre. The complicated ressauts and shoulders observed in the treatment of his surrounds to the fenestrations rank among his inventions. He detailed his work invariably in an elegant manner, differing much in many ways from the more restless spirit and regard for jagged outlines affected by de L'Orme. The Hotel de Lasbordes is situated at the angle of the Rue du Vieux Raison and the Place des Carmes. Over the archway of the portal to the staircase, of which we give a photograph, is inscribed, "Vivitur ingenio, cetera mortis erunt." Toulouse was the ancient metropolis of Languedoc, and is now the capital of the Département de la Haute Garonne and of Southern France. The city is wanting in natural beauty, but compensation is furnished by the possession of a fair share of eminent specimens of French architecture of many periods. The cathedral of St. Etienne is remarkable for its inconsistencies, and the building has been much criticised for its irregular character. The western façade is surmounted by a vast enclosing pointed arch set under a great lean-to wall in lieu of a gable. A bold, massive steeple on the north flanks this odd-looking frontispiece, which includes a thirteenth-century rose window set out of the centre as regards the big middle porch to the nave just below it. The belfry was built in 1531, and is topped by an open bellcote, designed in a later Renaissance type of work. The irregularity of the cathedral is even more marked in the interior of the building, and this incongruity of design is emphasised by the fact that the attached second church is entirely of another and conflicting nature, though in a sense this variety of idea adds to the picturesqueness of the fabric.

WHAT IS A BUILDING ARCHITECT?

The need for educating the public in the duties and responsibilities of the architect is described at some length in the November issue of the "Bulletin of the Illinois Society of Architects." A member of that society, in a letter to the editor, cites a formal report made by a committee of prominent business men, who, the member states, are not only intelligent and leaders in their community, but who evidently have but little knowledge of the duties and responsibilities of an architect. Continuing, the "Bulletin" states:—

Upon the completion of a large church and the presentation of the final report to the trustees, the members of the congregation voted to have the work reviewed by a committee. The committee after much labour brought forth the following report on the employment of the architect:—

"We find that the architect did pass on all the extras and additions to the building that he constructed and that the trustees passed all his recommendations.

"We feel it our duty to say to the members that this is a very unusual proceeding. The architect was hired to build this building, supervise his own construction, and then do his own inspecting on his own work. There was absolutely nobody to check a possible mistake in specifications and plans, and we are satisfied in our interview with the trustees that they have not had enough experience in building to be competent to pass on the matter.

"Had they employed another architect to check up the work of the building architect it would have been far more intelligent and fruitful."

What they meant by a "building architect" is beyond our feeble imagination.

The facts of the case are that the architect after preparing plans and specifications in the usual way took bids and under the direction of the trustees prepared contracts between a number of well-known responsible contractors and the church corporation. As the building

proceeded the trustees engaged their own superintendent who had charge of the building under the supervision of the architect. The work was completed by the contractors, bills checked by superintendent and trustees and final certificates issued by the architect and passed for payment by the trustees.

Four months after the opening of the building some of the members took it upon themselves, as a committee, to investigate the acts of their trustees and the result was the report, a portion of which is quoted above. This report is typical of the ignorance of the average individual in distinguishing between a contractor and an architect. In this entire report no mention was made of the twenty reliable contractors who had contracts on the building and who were entitled to credit for the excellent work they had done, but instead the committee could only see what they called the "building architect."

To further illustrate this lack of information as to an architect's duties and responsibilities the editor will record an incident in his own practice which occurred quite recently.

He had been employed in a consulting capacity by a large corporation which contemplated some extensive building additions, at one conference, in addition to the officers of the corporation, there were present the entire board of directors. On the board of directors was the president of the largest bank in the city.

During the conference the banker, who was to furnish the capital for the proposed buildings, was very insistent on knowing just how the money was to be spent, and how the corporation could be safeguarded in seeing that it secured the value of its money. Various systems of awarding contracts were explained to him; the lump sum contract, awarded after competitive bids; the guaranteed cost plus per cent., etc., in all of which it was explained that the architect would be the official advisor of the corporation. But the banker wanted to know who would check the work of the architect, and wanted to know what possible safeguard the corporation could have that the architect's work would be faithfully performed. This query of the banker was answered by the editor as follows:—

"Mr. —, you as president of a large bank have no doubt during your banking experience had occasion to resort to the law courts in a number of instances. If so, did you not turn your case over to some attorney in whom you had confidence, and did you not rely upon him absolutely for the proper handling of your matters in court? Did you ever question his method of trying the case, and did you ever insist on employing someone to watch him?"

"Again, you are a man of, I should say, about sixty years of age, and I take it are a man of family. I also assume that at some time you have had occasion to call in a physician to attend some member of your family. When you called in a physician did you not rely upon his professional knowledge and ability, or did you question him as to what system of medicine he practised, and insist that he advise you in detail as to the medicine he prescribed, etc.? Did you employ some druggist to check and advise you on the prescriptions written by your physician? Mr. —, when you employ an architect you are employing a professional man, and you should and must rely upon his professional ability and integrity to represent you acceptably."

COMPETITIONS.

BLACKPOOL.—Premiums are offered by the Blackpool Corporation for designs for laying out the cliffs at North Shore and Bispham, and for making South Shore more attractive. In each case there are to be first and second premiums of £300 and £200, and the town clerk (Mr. D. L. Harbottle) and borough surveyor (Mr. J. S. Brodie) are drawing up particulars and conditions of the competition, which will be announced shortly.

Mr. T. Orchard, surveyor to the Clutton Rural District Council, has had his salary increased by £63 a year as the result, in part, of representation made to the council by the Somerset Surveyors' Association.

THE WEST QUAY OF MADRAS HARBOUR*

By SIR FRANCIS JOSEPH EDWARD SPRING, K.C.I.E., M.Inst.C.E., and HUGH HENRY GORDON MITCHELL, M.Inst.C.E.

The object of the Paper is to describe how, at a cost of £200,000, 3,000 lineal feet of a quay, fit for vessels of Suez Canal draughts, has been constructed along the west, or shore, side of Madras artificial harbour.† The quay in question has replaced the shelving, sandy shore, and, by allowing dredging to be done, has enabled the Port Authority to enlarge the area of the enclosed harbour, available for shipping, from about 100 to about 200 acres. In other words, the shore half of the harbour, which before the construction of the quay was available only for small craft, is now available for vessels of Suez Canal draughts. The quay is constructed mainly of granite cement concrete faced with granite masonry. It rests on about seventy double-aperture wells or monoliths, sunk to a depth of 55 ft. below low water, or to a depth of 23 ft. below the dredged bottom of the deepest berths. Of the wells twenty-one are 50 ft. by 28 ft., three are 44 ft. by 28 ft., twenty-one are 43 ft. by 24 ft., and nineteen are 35 ft. by 20 ft. Besides these sixty-four deeply sunk, or regular, wells, there are at each end a few smaller and shallower wells, where the quay crosses the rubble base of the old harbour breakwaters. Throughout the full length, 2,980 ft. of the quay, its breadth, on top of the wells, is 24 ft. Its height above Indian spring low water is 12 ft. The wells are shod at the bottom with steel curbs weighing in the aggregate about 1,000 tons made by local firms.

The strata through which the wells were sunk is sand or clayey sand, real clay not being met with until a depth of 77 ft., and rock not until a depth of 113 ft., is reached. The Paper describes fully the principal mistakes that were made and the difficulties encountered during the progress of the work, showing how they were corrected or overcome. All the wells leaned forward 4 to 8 ins. as the sea-bed was dredged from the fronts of them and the earth-pressure came on at the back. This forward movement, once it was fully recognised and diagnosed, was compensated for by leaning the wells backward with a batter in the sinkings, so that by the time the superstructure came to be built the top face of the line of wells was about 6 ins. back from its ultimate position. An interesting feature of the work was the manner in which the space, averaging 1 foot 8 ins., between adjoining wells was sealed so as to prevent the flow of sand from the back. Another point of interest was the way in which the fronts of the wells were coffer-dammed so as to enable the true face-line of the superincumbent masonry to be wrought.

The Paper gives very fully the accurate cost and unit rates of all the parts into which, for accounts purposes, the work was divided, and explains that these were not contractor's rates but the actual rates at which the work was executed, for the most part by daily, or departmental, labour, supplemented by a petty contract for the stone quarrying. The all-over cost of the finished quay—in spite of war prices for a part of the cement used—ran to practically Rs. 1,000, of £66 6s. 8d. per lineal foot.

The quay is equipped with five groups of 1-ton hydraulic cranes for working cargo in and out of lighters at the places which ordinarily will be free of steamers. Overhead, or portal, 35-cwt. hydraulic cranes for plumbing ship's hatches are under order, but are delayed because of the war. The quay affords berthing for four steamers of the average Suez Canal class; or, in an emergency, when some of the groups of small, or barge, cranes will be masked, for six smaller vessels. Trains of both the South Indian gauges (5 ft. 6 ins. and 1 metre) have access to the full length of the quay, which is equipped

throughout with transit sheds 120 ft. wide, placed 112 ft. back from the quay-face. The quay has already been used extensively, even when only half finished. Pending the instalment of cranes, its working capacity has varied, ship's own derricks only being used, from 1,200 tons in a day for coal down to 500 tons in a day for rails per steamer.

THE HOUSING PROBLEM.

DIFFICULTIES OF THE PRESENT SITUATION.

The first of the series of lectures in connection with the Edinburgh Association for Social Study and Training was given by Sir John R. Findlay, K.B.E., in the University Mathematical Institute, 16 Chambers Street, last Friday night. The subject of the lecture was "The Housing Problem in its Social and Economic Relations." The housing problem was urgent; it was beset with many difficulties, and a complete study of it would be almost a complete course of social study and training. It was a subject which demanded insistently a proper point of view and a proper appreciation of the different degrees of validity of the principles involved. Neither social ideals nor economic theory and practical knowledge were in themselves a sufficient guide. Social ideals might give the impulse towards action; but they must be applied with discretion in the light of knowledge, and we must recognise that there are certain definitely established relations of cause and effect which even the best intentions cannot alter. Under present conditions nothing could be done to improve housing. No complete scheme could be formulated until they knew the conditions under which it was to be carried out. They could, however, endeavour to arrive at some understanding in regard to the factors involved, and the extent to which they were capable of conscious modification. House-building had ceased because the cost of land, building materials, wages, rates, and the rate of interest made the building of houses an unprofitable undertaking.

POSSIBILITIES OF RELIEF.

In what directions could relief be obtained? Land was not likely to be as great a difficulty in the future as in the past; but it was a very small element in comparison with interest, which had been the most potent factor in causing the deadlock. In this direction they could look for little relief. The minimum rate of interest was beyond our control, and it was merely confusion of thought to speak of free loans or loans below market rate. If a subsidy were required it should be given as a subsidy; every effort should be made to distribute the advantage and the burden fairly, and they should not blink the fact that in subsidising house-building they were to a certain extent subsidising industry, which under normal conditions bore the cost. Since about 90 per cent. of the cost of building went in wages, the rate of wages was an important element. It would become still more important if those at present engaged in the trade endeavoured to secure a monopoly value for their services. Little relief was to be obtained in respect of rates, and it should be remembered that when rents were fixed so as to pay merely interest and outgoings, all rates had to be included in the rents. Nor could they look to relief from a general increase of wages sufficient to enable the tenant to pay a higher rent. It might save paying a subsidy on new houses; but since the rents of all existing houses would also rise, there would be an unearned increment to property owners which it would be very difficult to tax. It was, he thought, a pity to complicate the question by bringing in the taxation of capital. To solve the housing problem we must divert to the building of houses labour and material which but for our interference would be used for other purposes. They could take much or little; they might even take it all; but no levy on capital would enable them to forestall it.

The Estate Committee of Dudley Town Council recommend the purchase from Mr. H. P. Bagott, with a view to the erection of baths thereon, of the Chaddeley House property, situate off Wolverhampton Street and St. James's Road, Dudley.

THE LONDON COUNTY COUNCIL AND BUILDERS' WAGES.

The Council on November 27, 1917, on the recommendation of the General Purposes Committee, agreed to revise the list of rates of wages and hours of labour by recording an award, dated October 25, 1917, under which the time rates of wages of the men of certain of the building trades were to be advanced 1½d. an hour when working on munitions work.

The London Master Builders' and Aircraft Industries' Association (formerly the London Master Builders' Association) now intimate that they have agreed to a war bonus of 1½d. an hour being granted, and starting from January 19, 1918, to workmen within the London area not engaged upon work covered by the arbitrator's award of October 25, 1917.

It will be observed that this last increase is styled "war bonus," whereas the increase granted by the arbitrator is a war wages advance. The committee consider that this latest agreement should be recorded in the Council's list, and recommend:—That the following footnote be substituted for that at present appended in the Council's lists of rates of wages and hours of labour to certain of the trades under the heading "Building trades": the rates of wages of these trades are subject to the addition of war wages advances amounting to 3½d. an hour; and that the following footnote be substituted for that at present appended in the list to the trade of "painters" under the heading "building trades": This rate is fixed for the period of the war, and is to continue until nine months after the declaration of peace, and is subject to the addition of further war wages advances amounting to 2½d. an hour.

BUILDING TRADES APPRENTICESHIP SCHEME.

The Education Committee reported to the Council on January 22 1918, as to the appointment by the Council of two representatives on the London Building Trades Apprenticeship Committee, and the Council appointed Mr. Harold Hodge as one of its representatives. To give effect to the desire of the Education Committee as to the second place, the General Purposes Committee recommend: That, on the understanding that the Council is thereby in no way committed as to its policy, the education officer or one of his representatives, acting as an assessor or in an advisory capacity, be appointed a representative of the Council on the London Building Trades Apprenticeship Committee.

ASPHALTE.

The Committee on Production issued an award, dated December 6, 1917, in regard to the rates of wages, hours of labour, overtime rates, etc., of asphalters.

The Council's list of rates of wages and hours of labour has the following entry with regard to workmen employed in this trade:—Asphalte paving—Spreaders, 6s. to 6s. 6d. per day, potmen and labourers, 5s.

The award now made specifies hourly rates of 1s. for spreaders and 10d. for potmen and labourers, one-third of which shall be deemed to be due to the abnormal conditions prevailing in consequence of the war. It further provides for a workman described as a handy rubber, with wages of 11d. an hour. The General Purposes Committee consider that the Council's list should be amended to record the findings of the Committee on Production, and recommend:—

That the Council's list of rates of wages and hours of labour be amended by the omission of the entries at present appearing in the section headed "Asphalte paving," and the substitution of the following:—

Asphalters—Spreaders, handy rubbers, potmen and labourers: In accordance with the award dated December 6, 1917, of the Committee on Production.

Mr. James Sellars has been appointed president of the Association of Master Painters in Scotland.

The Sanitary Committee of the Leeds City Council have decided to be connected with the authorities of the Leeds General Infirmary and the Leeds University in the establishment of a Pathological Institute at the University, and to contribute £1,400 annually towards the expenses of the Institute.

*Abstract of a Paper to be read at the ordinary meeting of the Institution of Civil Engineers, on Tuesday, February 5, 1918.

†The authors have previously described this harbour in Papers published in Vols. CXC. and CXCV. of the Minutes of Proceedings Inst.C.E.

ARCHITECTS' WAR COMMITTEE FUND.

The following is the first list of contributors who have responded to Mr. Ernest Newton's (Chairman of the Architects' War Committee) recent appeal:—

Alexander, S. G., £2; Allen, Theophilus, £1 1s.; Andrew, H., £1 1s.; Angell, R., £5 5s.; Ashbridge, Arthur, £10 10s.; Ashley, H. V., and Winton Newman, £3 3s.; Axten, H. J., £1 1s.; Baker, Herbert, £5 5s.; Barry, F. Renton, £1; Barry, W. E., £5 5s.; Beare, Josias C., £1; Beaumont, J. W., £2 2s.; Beswick, Harry, £10; Birmingham Architectural Association, Council of, £10; Brett, E. J., £1 1s.; Bridgen, C. H. E., per Mrs. Bridgen, 10s. 6d.; Bridges, Oswald A., 10s. 6d.; Brierley, W. W., £5; Bridson, T. R., £5; Briggs, John, £2 2s.; Brodie, C. H., £5; Burgess, Capt. C. S., £10; Burke, Edmund, 4s. 2d.; Burnett, A. S., per A. A. Burnett, £3 3s.; Burns Dick, Capt. R., £50; Cackett, J. T., £50; Carmichael, Lieut. D. A., £1 1s.; Caroe, W. D., M.A., £10 10s.; Charles, Miss B. A., £5 5s.; Charles, Miss E. M., £10; Clark, F., £1; Clifton, W. E., £3 3s.; Coleridge, J. and P., £1 1s.; Coles, Frank A., £2 2s.; Collins, M. E., £3 3s.; Collinson, G. F., £5; Cooper, T. Edwin, £5 5s.; Cop, W. E., 5s.; Cotton, John, 10s. 6d.; Cox, R. L., £5 5s.; Crompton, W. E. Vernon, £1 1s.; Darke, FitzRoy H., £5; Davidge, W. R., £2 2s.; Dewes, Stanley, £2 2s.; Dewhurst, J. C., £1 1s.; Dixon, Arthur S., £5; Doe, Herbert W., £1 1s.; Dollar, Peter, £2 2s.; Douglas, Capt. H. A., £2; Dunkerley, F. B., £2 1s.; Ekins, L. G., £1 1s.; Emerson, Sir William, £8 8s.; Ewing, James, 10s.; Favarger, H., £2 2s.; Farquharson, H., £2 2s.; Fleming, H. S., £1 1s.; Ford Son and Burrows, £2 2s.; Foreign Architectural Book Society (per Mr. E. Guy Dawber), £10 10s.; Forster, F. J., £3 3s.; Fox, Sir Francis, £2 2s.; Franklin, D. M., £2 2s.; Fraser, Percival M., £5 5s.; Gass, John B., £10 10s.; George, Sir Ernest, R.A., £3 3s.; Goodsir, J. P., £1 1s.; Gower, A. S., £2; Grant, W. Leonard, £2 2s.; Grayson, Hastwell, and Leonard Barnish, £10 10s.; Grazebrook, T., £2 2s.; Green, Mowbray A., 10s. 6d.; Green, Walter G., £1 1s.; Greene, Capt. W. Howe, £1 1s.; Greenleaves, E., 10s. 6d.; Harper, Ewen, £1 1s.; Hartree, Lieut. J., £4 4s.; Hatcher, G. W., £1 1s.; Holman, A. R., £1 1s.; Hooper, Francis, £5 5s.; Hope, A. J., £5 5s.; Hunter, James K., £1 1s.; Hutchings, J., £2 2s.; Innocent, C. J., £1 1s.; Jackson, Martin T. E., £1 1s.; James, James W., £2 2s.; Jemmett, A. R., 10s.; Jones, Francis, 10s. 6d.; Jones, W. Campbell, £2 1s.; Kennington, 2nd Lieut. H., £1 1s.; King, Vivian H., 5s.; Knowles, Messrs. Oliver and Leeson, £3 3s.; Laing, H. G., Malcolm, £1 1s.; Langham, C. S., per Mrs. Langham, 10s.; Legge, H. A., £1 1s.; Lethbridge, George, £2 2s.; Leverhulme, the Lord, £100; Lewis, H. G. G., per Mrs. Lewis, 5s.; Lonsdale, H. Walter, £3 3s.; McIlwraith, John F., £1 1s.; Mackenzie, A. G. R., £1 1s.; Mackenzie, A. Marshall, £1 1s.; Martyn, E. A. L., £1 1s.; Miles, G. S., £1 1s.; Miller, James, £5 5s.; Milner, the Viscount, £10; Morris, James A., £1 1s.; Morris, Percy, £3 3s.; Munford, Wm., £1 1s.; Murray, John, £5 5s.; Neill, Archibald, £2 2s.; Nisbett, N. C. H., 10s. 6d.; Newton, Ernest, R.A., £5 5s.; Owen, Segar, £25; Pace, C. L., per Leonard J. Pace, £2; Paine, G. H., £1 1s.; Palmer, C. T., 10s. 6d.; Parry, S. Gambier, £2 2s.; Paterson, Alex. N., £2 2s.; Paterson, J. Wilson, £1 1s.; Perkins, Henry, £1 1s.; Pick, S. Perkins, £5; Picott, Capt. R. M., R.E., £1 10s.; Portal, Sir William, Bart., £1 1s.; Potter, Frank J., £1 1s.; Price, F. G., 9s.; Prior, Prof. E. S., £1 1s.; Redfern, Harry, £3 3s.; Reilly, Prof. C. H., £2 2s.; Roberts, A., £1 1s.; Rolfe, W. B., 10s. 6d.; Rushworth, W., £2 2s.; Seacoll, Geo., £5; Scorer and Gamble, Messrs., £2 2s.; Scott, W. Gilbee, £2 2s.; Scott, Mrs. Walter (in Memory of the late Walter Scott), £5 5s.; Shephard and Bower, Messrs., £2 2s.; Sills, Francis, £1 1s.; Simpson, Captain T. H., R.F.C., £2 2s.; Simpson, F. M., £2 2s.; Sirr, Harry, £1 1s.; Smith, J. Osborne, £2 2s.; Smith, M. Maberley, B. A., £2 2s.; Smeed, Frank E., £1 1s.; Snell, A. Saxon, £5; Solomon, J., Solomon, R.A., £1 1s.; Solomon and Son, Messrs. Lewis, £5 5s.; South Wales Institute of Architects, £5 5s.; Street, A. E.,

M.A., £3 3s.; Street, Edward, £2 2s.; Sulley, Henry, £3; Sulley, Mrs. Henry, £2; Surman, J. B. and W. T., Benslyn, £2 2s.; Sykes, A., £5 5s.; Tait, C. J., £5; Thomas, A. H., 10s. 6d.; Thomas, Major Sir A. Brumwell, £10 10s.; Timbs, R. F., £1 1s.; Todd, H. E., £2 2s.; Towend, T., £5; Town, W. H., £2 2s.; Triggs, H. Ingo, £1 1s.; Tromp, F. N., £3 3s.; Tugwell, Sydney, £3 3s.; Tullock, F. R., £2 2s.; Type, Marcus O., £1 1s.; Vickery, Geo. and T. S., £5 5s.; Walton, George, £5; Warren, Edward, £5; Waterhouse, Paul, M.A., £1 1s.; Waterhouse, P. L., M.A., £1 1s.; Watson, A. F., £3 3s.; Wells, Douglas, £1 1s.; Whinney, Thos., B., £10 10s.; Whitehead, Alfred, £1 1s.; Wigram, E. T. A., £5; Wilec, J. G., £1 1s.; Willink and Thicknesse, Messrs., £20; Yeates, Alfred B., £2 2s.; Yerbury, John E., £2 2s.; York and East Yorkshire Architectural Society (per A. B. Burleigh), £15 5s.; Young, James and Co., Messrs., £2 2s.; Young, W., Cecil, £1 1s.

LEGAL INTELLIGENCE.

MR. ARNOLD LUPTON SUMMONED.—At Bow Street, London, on Saturday last, Arnold Lupton, ex-M.P. for Sleaford, appeared to answer three summonses for being in possession of leaflets, for aiding and abetting the printing of them without the necessary address of the printer, and for publishing and disposing of the leaflets. S. H. Street, printer, Streatham, London, was summoned for printing and publishing the leaflets without his name and address appearing on them. Sir A. Bodkins, prosecuting, said that 2,700 leaflets were printed. The case arose out of the behaviour of a person named Shone, who was dealt with in that Court, on December 4, in respect of this leaflet. Mr. Llewellyn Williams, K.C., M.P., who appeared for Lupton, and Mr. Holford Knight, who appeared for the printer, objected; but Sir John Dickinson over-ruled the objection. Mr. Lupton wrote a letter to a shorthand writer, named Rutherford, who took a shorthand note of the case, and in that letter said: "Do not mention my name as having had anything to do with it." That showed that Lupton was interested. "I will not read the leaflet," said counsel, "because I will not make myself the means of publishing such a wicked and mischievous matter as this leaflet contains." The police raided Lupton's flat in November, and found a sort of distributing room, in which there were many thousand pamphlets and leaflets. They also found letters from German prisoners of war acknowledging the receipt of leaflets, and 1,200 letters asking for pamphlets, including 130 from soldiers. Detective-Inspector Fitch said that on August 21 he saw a man distributing leaflets outside the Labour Conference, at Central Hall, Westminster. About 100 of the pamphlets had been distributed, and he seized the remaining 240. The case was adjourned till February 16.

SOLICITOR'S DEALINGS WITH BUILDERS.—The public examination was held last Thursday, before Mr. Registrar Hope at the London Bankruptcy Court, of Mr. Whately Charles Arnold, solicitor, who failed in July last with liabilities £41,585, and a deficiency estimated at £37,585. Questioned by Mr. Daniel Williams, Official Receiver, the debtor stated that he was admitted in 1886 and during the following year entered into partnership with Mr. Leslie Antill, at Gresham Buildings, E.C. Many of the firm's clients were speculative builders and persons speculating in property generally. Those people were financed with moneys of other clients, most of whom were personal friends of Mr. Antill. Some of the builders became bankrupt, with the result that the moneys advanced were lost; actions were brought against the firm for negligence, and the greater portion of the present debts were created. The firm was heavily and hopelessly insolvent by 1902, and had never recovered its position; but the failure was also due to the excessive drawings of witness and his late partner. Mr. Antill died in 1906, and witness had since continued the practice both alone and in partnership with another solicitor. The debtor admitted that he was struck off the Rolls on July 27, 1916, on the ground of having received £500 from a client and not having accounted for it. On the rising of the Court the sitting was adjourned.

The Franciscan Friars are about to erect a new church at Athlone on the site of the old Franciscan Abbey.

Correspondence.

UNITY OF THE PROFESSION.

To the Editor of THE BUILDING NEWS.

SIR,—I am much interested in your leading article of January 30, and I am particularly interested at the moment in your suggestion for a general architectural council to deal with matters more particularly connected with the control of the profession. I made a similar suggestion in a paper which I read before the Society of Architects on "Professional Practice" in 1912, when I proposed, in the absence of, or in the anticipation of, such a controlling body as would be constituted under a Registration Act, the immediate formation, by agreement between the architectural societies, of a Board of Professional Control representing every architectural society in the United Kingdom, in such proportion as may be arranged.

It will be seen that Mr. Wigglesworth, in his paper to be read before the Society on February 7, suggests that the Architects' Reorganisation Committee might form a model for the establishment of a permanent Council of the whole of the profession. When the Architects' War Committee was first established I suggested that, as a body representing every section of the profession and every professional body connected therewith, it might well, after the war, be entrusted with the work of dealing with matters of general professional interest. It is very evident that the idea of some scheme of federation for the purpose of unity on the lines suggested is one which is becoming recognised as the first step towards some form of what is popularly known as "Registration."—Yours faithfully,

C. MCARTHUR BUTLER, Secretary.

The Society of Architects,
23, Bedford Square, London, W.C.,
February 2, 1918.

PROFESSIONAL AND TRADE SOCIETIES.

LIVERPOOL ARCHITECTURAL SOCIETY.—The annual report of the Liverpool Architectural Society for the 69th session, 1916-17, is a healthy one for the times. The Fellows are only 1 lower than in the previous year, 59 against 60, and the Associates 41 as compared with 1916, the pre-war membership having been 70 and 59 respectively. No sessional meetings were held, but five interesting visits were paid to as many local buildings of importance. The work of the Council has been largely associated with matters arising out of the war or which may affect the interests of the profession in the "after the war" period. Lieut.-Colonel S. B. Morter, Captain M. Honan (now reported missing), Lieut. J. F. Barnish and Captain A. K. Sykes have been mentioned in despatches. Second-Lieut. G. H. H. Sutton has been awarded the Military Cross. Owing to the R.I.B.A. having applied for and obtained the sanction of the Privy Council for the Institute Council to remain in office for a second year without re-election, the Society has not been represented on the Institute Council during the past year. The Society was represented by the president, Mr. T. T. Rees and Professor Abreanbia at the conferences of Manchester, Sheffield, Birmingham and Liverpool architects held on March 31 last, to consider the Government scheme of housing, and will be again at the conference to be held in Manchester on April 13 next to consider the formation of a joint Association or Council of Midland and Northern Architectural Societies to take common action on professional questions, and more especially those affecting provincial interests. The exhibition of designs for war memorials held by the Society was a gratifying success. Further communications have passed with the R.I.B.A. respecting the suggestion that the Society through its Town Planning Committee should attend enquiries and actively take up the matter of town planning schemes with the local authorities concerned. The Council holds a somewhat different view and does not approve of strictly professional services involving a large amount of time and thought being voluntarily offered on public work. The

Council again urged the Institute to impress upon the Local Government Board that an architect should be professionally employed on the early stages of all town planning schemes, more especially those submitted by the smaller urban authorities. A report of the work of the Architects' War Committee of the Royal Institute of British Architects gave rise to severe criticisms, and strong expressions of opinion from this and other provincial Societies were laid before the Council of the Institute. It was felt that the policy of the Institute had resulted in a complete absence of any appreciation by the Government Authorities of the services which architects by their special training were qualified to offer to the State.

Our Office Table.

At the Royal Institution last week, Professor Flinders Petrie urged the necessity for rebuilding Jerusalem on lines entirely different from those that were followed at Athens and Rome. There must, he said, be no building on top of the ancient city. Suburbs should be laid out on either side about two miles from the centre of the city, with which they would be connected by electric trams. People should be prohibited from building in the old city, and the whole population would move to the suburbs in a generation or two. Ultimately public offices might be put up among the ancient buildings, and there might also be a rest house for pilgrims and a hospital in which Jews could die within the boundaries of the old Jerusalem.

At a housing and town-planning conference held at Bristol last Thursday an interim report was then presented as the outcome of a technical conference on the nature of the houses to be built and conditions attached to their erection. The secretary drew attention to some of its points. He said they were tired to death of the "brick box houses," that had been erected "ad nauseam." They desired a broader type of house that could be rendered more attractive, and an avoidance at the rear of extensions giving a tunnel-like effect. Three bedrooms, a parlour, and a bath were desired, and houses should be limited to twelve per acre. Rural cottages should have at least one-eighth of an acre of land.

Last month the Court of Common Council adopted a report of the County Purposes Committee recommending the constitution of a Central Statutory Authority to take over the inland waterways. This report has been printed and circulated amongst the various local bodies throughout the kingdom interested in the subject of inland transport, and the result was reported to the County Purposes Committee at its last meeting. Communications have been received from seven Metropolitan boroughs, sixty municipal corporations, three county councils, ninety-five urban district councils, fifteen chambers of commerce, and several other authorities, and all cordially support the recommendations of the committee. Replies have also been received from eight other authorities supporting a general recommendation of the committee in favour of national control of the inland waterways, but differing as to details. The committee decided to recommend the Common Council to send a deputation to the Department responsible for inland transport, impressing the importance of immediate action.

In a report issued last Thursday the Public Works Committee of Dudley Town Council recommend that a sketch plan, showing a town hall, with coroner's court and museum on the ground floor, be approved as the basis of an application to the proper authorities for the diversion of the Brooke Robinson legacy, left for the purposes of a museum solely, to the purposes of a town hall, coroner's court, and museum. In the will of the late Mr. Brooke Robinson, who represented Dudley in the House of Commons from 1836 to 1906, he bequeathed to his executors and trustees a large collection of works of art for the purposes of a museum to be known as the "Brooke Robinson Museum," in memory of

his first wife, Eugenia Frederica Louisa, and her father, George Collis, by the last-named of whom the greater part of the collection was purchased or acquired. Upon a certain condition his trustees were empowered to raise out of the residuary estate £30,000 clear of all debts and deductions, and invest it for the endowment and maintenance of the museum. They were also empowered to apply the endowment fund or investments, or any part thereof, in all or any of the following ways:—In purchasing land, with or without buildings, at Dudley, and capable of being conveniently used for the museum; in erecting any new building deemed necessary or convenient upon any land held upon trust for the museum; restoring or renovating from time to time any of the articles of the museum and providing fittings for cases.

A "General Congress of Civil Engineering" is to be held in Paris from March 18 to 23 next. The objects of the conference are to awaken the French nation to the need for increased industrial enterprise and the attainment of industrial agreement. The conference, it is expected, will give very close attention to such questions as the saving of fuel, the thorough utilisation of intellectual and mechanical effort; will wage war on waste of all kinds; will advocate the systematic utilisation of by-products, and the adoption of improved scientific mechanical methods of production.

The Department of Scientific and Industrial Research has issued, as Bulletin No. 1, a memorandum by Professor Percy Groom on the preservation of timber in coal mines—a matter which is of national importance at present, in view of the shortage of timber supplies. It is pointed out that a large amount of timber, especially in shallow pits, has to be replaced prematurely, owing to decay caused for the most part by fungi which permeate and devour the wood. These fungi produce "spawn" and "spores" which spread to sound timber, and the memorandum suggests remedial measures by which this infection can be checked. Some notes are also given on methods of protecting the wood so as to render it immune from infection.

The Local Government Committee of the London County Council suggests opposition to the St. Olave's, Southwark, Church Bill, by which power is sought to dissolve the ecclesiastical parish and to demolish the old parish church of St. Olave, Southwark. The Committee reports that the church, which was designed by Henry Flitcroft and completed in 1739, is a most interesting building, while the dissolution of the parish—which is centuries older than those of St. John, Horselydown, and of St. Paul, Bermondsey, with which it is proposed to incorporate it—and the destruction of the church, would result in the disappearance, except in the corrupt form "Tooley," of the name of St. Olave from the district with which it has been connected since the time of the Norman Conquest.

Saughton House, an ancient manor house standing about a mile to the south of Corstorphine, was destroyed by a fire which broke out about four o'clock last Friday morning. The building dates back to the sixteenth century, and some twenty-five years ago was restored and added to. It is approached from the south by an avenue leading from the Calder or Old Glasgow Road, and lies about a mile from the car terminus at Gorgie. It should not be confused with Saughton Hall, situated in Saughton Park, where the last Edinburgh Exhibition was held. The estate of Saughton was transferred in 1537 to Richard Watson, and passed from father to son in the direct line until 1837, when William Ramsay Watson, the last heir male of the family, succeeded his brother Charles. Four years later, on his death, the succession opened to his sister Helen. In 1844 she married Sholto John, Lord Aberdour, who in 1858 became twentieth Earl of Morton. The property came into the possession of Mr. W. Traquair Dickson, W.S., Edinburgh, about twenty-five years ago. The house is built on the L plan of Scottish architecture. In the high-pitched

roof were dormer windows, terminating in stone thistles. The stair was carried right up to the roof, and gave access to a small level space, whence a commanding view was obtained. In front of the house is an ancient draw-well, nearly 50 feet deep. A small room on the right hand of the entrance formed part of the ancient hall, the main feature of which is its roof, and which was still intact last week. About forty years ago the roof was covered with a very thick coat of whitewash. On the whitewash being cleaned off the stone arch was found to be covered over with quaint old paintings in oil, most of them in surprisingly good preservation. On a blue ground, sprinkled with stars, is painted a conventional sun, filling the centre of the roof of the old hall, with the twelve signs of the zodiac encircling him. Along the spring of the arch on one side is a line of ships in full sail.

A "portmanteau word" that we agree with the *Manchester Guardian* almost deserves to be adopted into our permanent vocabulary was coined by Dr. C. W. Saleeby in a speech supplementing a lecture of Mrs. C. S. Peel's at the London School of Economics a few days ago. He was contrasting the typical London fog with the kind of fog known at sea, and suggested that the former should be distinguished as "smog," for it was really a combination of smoke and fog. Dr. Saleeby pointed out that the abolition, or at any rate the considerable reduction, of "smog" would be an additional advantage of the public kitchens Mrs. Peel had been advocating in her lecture. This nuisance she said was a problem not of the factory chimney, but of the domestic kitchen range, and in great cities the institution of the public kitchen pointed the way to its solution. But, as far as we have noticed "the factory chimney" has been and still is contributing more than its legal share of smoke to the "smog" lately.

Canon Rawnsley writes pointing out, and, we think, with good reason, that if the Aluminium Company get their way, not only will great injustice be done to the inhabitants of Fort William and the dwellers in the Spean and Lochy watershed by taking from them their natural rights—the water of their own district—but a great addition of workers will be added to a town badly planned and in a *cul de sac* which from its position is, in the opinion of many, neither convenient nor over-salubrious. "We are told," says Canon Rawnsley, "that in an age of progress we must disregard these things. The streams and torrents of our native land are spoken of as 'white coal.' But a nation does not fight cheerfully for a muck-heap, and men do not live by bread alone. I am, of course, alive to the fact that with our decreasing coal measures we shall have to depend on electrical power, and that water may rightfully be used for its generation. But one emphasises the worth of scenery and natural beauty to the nation's health and well-being, because in all the correspondence in the Northern Press about this precious Aluminium Company's scheme I find only one voice protesting against the assumption that 'the beautiful and the romantic must yield to the utilitarian, however hideous it may be.' It is the plain duty of those whose wish is to industrialise the Highlands to remember that in other countries water-power is utilised without destruction of the picturesque. It is some consolation to know that the utilitarians are opposed to the scheme of the company that put the Foyers Waterfall into a pipe. But Lochaber is up and the heather is ablaze."

The death is announced of Mr. Wm. Oxtoby, borough engineer of Camberwell.

The Reading Town Council have passed plans for additions to a factory in Gosbrook Road, Caversham, for Messrs. Samuel Elliott and Son, Ltd.

We regret to record the death of Mr. John Kempster, B.A., F.S.I., of the firm of Messrs. Patterson and Kempster, quantity surveyors, Dublin, which occurred on the 19th ult. after a partnership of forty-six years.

Sir Alfred Mond, First Commissioner of Works, has appointed Mr. Charles T. Ruthen, F.R.I.B.A., to be Deputy-Controller of Accommodation and Chief Inspector. Mr. Ruthen will act in an honorary capacity.

THE BUILDING NEWS

AND ENGINEERING JOURNAL.

Effingham House.

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OUR ILLUSTRATIONS.

Selected Design for the National University of Ireland new building, Dublin. Plans, elevations, and sections. Messrs. W. G. Clayton and W. Sedgwick Keatinge, M.M.R.I.A.I., Architects.

London County Council's Better Housing for the Working Classes, Tottenham Fields Estate, Tooting, S.W. Plans, elevations, and sections, with two views. Mr. W. G. Riley, F.R.I.B.A., Superintending Architect to the London County Council, Architect.

Currente Calamo.

The Council announced at the meeting held at Conduit Street last week that Mr. Ernest Newton, A.R.A., has been nominated for the Royal Gold Medal this year. The merit which has invariably distinguished Mr. Newton's artistically-designed country mansions and smaller houses, as well as the excellent character of his many other buildings, are ample justification for this timely distinction, and the choice thus made will be approvingly recognised by the whole profession. Moreover, all who have had any knowledge of the strenuous work carried forward by the late President of the Institute during two critical years of the war will at once realise how well Mr. Ernest Newton deserves the recognition of his continuous labour in numberless ways for the amelioration of the straitened condition of architects through loss of work, and for his endeavours to place the great building industry of the country upon an improved footing at the present juncture, as well as for the furthering of building enterprise after the conclusion of the war.

Whether or not the immediate means suggested prove fruitful, there is no doubt that the paper read last Thursday by Mr. Herbert Wigglesworth, F.R.I.B.A., before the Society of Architects, and the subsequent discussion thereon, mark another welcome step towards the accomplishment of the unity of the profession. Mr. Wigglesworth would rely on other and more legitimate means of union than the fusion of the Institute and the Society, and suggests the utilisation of the Architects' Reorganisation Committee as the link between the two societies and all architects and others interested in architecture. He believes that it might well develop into a sort of Board of Control, charged with the voluntary registration of all architects, and, possibly, in the future, when architects are all unitedly desirous of Parliamentary Registration and agreed as to its scope and method, entrusted with the means and power to organise for that in the fashion in which outside opinion is focussed on Parliament when other reforms are demanded. It is all in favour

of Mr. Wigglesworth's idea that the Architects' Reorganisation Committee, which holds its meetings at the Society's rooms, represents all sections of the profession, and has already done such good work and most harmoniously as to well warrant the hope that it might develop into or help to create a Permanent Council of the whole profession, overriding in no way the rights or functions of the two principal Societies or those allied thereto, but concerning itself solely but effectively with the maintenance of the unity of the profession, which alone can secure and guarantee the needs detailed by Mr. Wigglesworth.

It remains, of course, to be demonstrated that there is a reasonable chance of success attending the efforts of any such general Council, especially in regard to the effective control it would be possible for it to exercise and the recognition by the general public of voluntary registration under its auspices. Doubts as to this were pertinently but sympathetically voiced by Mr. H. V. Lancaster. Mr. McArthur Butler had also similar doubts, but was certain that practical difficulties would prevent fusion between the two Societies. Mr. R. J. Jemmett's conviction was that what was wanted was a united Society similar to the Royal Astronomical or the Royal Geographical, which attracted the adhesion of others than the professional astronomer or geographer, including the most prominent public men of the time, and whose influence as regards the services they endeavoured to promote was greater either with the Government or on public opinion than that of any architectural society. It may have been recalled by more than one listener, as by another speaker, who had something to do thirty-three years ago with the foundation of the Society of Architects, that it was in the first instance contemplated that that Society should have been based on some such endeavour as Mr. Jemmett postulated, and that, strengthened by the co-operation of all interested in architecture and the kindred arts, its activities should have been concentrated on the encouragement thereof rather than on the administrative functions of another body similar to the Institute.

That it fell out otherwise, however, was perhaps rather the misfortune than the fault of those who joined. They soon found that those who followed them absolutely demanded a purely professional Society, securing to them advantages they had failed, or thought they had failed, to find at the Institute, and so the Society gradually became what it is to-day. Especially was this the case as regards Registration, which for years the Institute pooh-poohed. So emphatic became the demand of the fast increasing members of the new Society for Registration that the preference of its earlier members, who were rather in favour of some such scheme of *federation* as Mr. Wigglesworth suggests, was disregarded, and the Society hitched its wagon to a star and went back and edge at once for Parliamentary Registration. Perhaps that was premature, but, at any rate, it rapidly brought in more and more approving members, who doubtless believed that "Always audacity" was the best strategy. Perhaps it was; for, at any rate, the desirability of Registration of some sort became more and more widely admitted as the years passed by and gained experience dictated to the Registrationists modifications and improvements of their earlier Bills. Beyond all doubt, too, the thirty years' work and more of the Society has cherished the growing desire for unity, as contrasted with the all too obvious exclusiveness of the Institute as far as the controllers of its policy were concerned in the latter years of the last century. That a better spirit prevails now is to some extent apparent. That it may increase within and without the Institute, fostered by the men who are earnestly feeling their way to real unity, and that they may be able to make the dead efforts of the past good stepping-stones to the better things of the near future, will be the hope of all honest men and good fellows.

How public money is flung away in connection with the commandeering of hotels by the Government was shown last Thursday, when the Defence of the Realm Losses Commission resumed their sittings in Parliament House, Edinburgh, and when further claims against Governmental Departments were considered. Lord Terrington

presided, and the other members were Mr. Edward Shortt, K.C., M.P., Sir Matthew Wallace, and the Right Hon. Laurence Hardy, M.P. The Commission resumed consideration of a claim by the Pitlochry Hydropathic Hotel Co., Ltd. The company received intimation in September, 1915, that the whole establishment would be required by the War Office, and the business was closed down on October 1, 1915. The premises were occupied till March 10, 1916, and, it was alleged, were temporarily rendered unfit for use as a hydropathic. Two claims were made. The first was for £3,137, representing the season's loss on account of the occupancy of the troops and for the period necessary to have the establishment restored and made fit for further occupation. The second was for £2,533, the agreed upon amount necessary for restoration. After hearing evidence, Lord Terrington said there was most unpardonable delay on the part of the military authorities in this case. They must have been aware that the result of not getting this matter assessed and dealt with immediately would be to land the public in a whole season's loss in respect of this hotel. The result was that with £124 occupation they were faced to-day with a claim for £5,000 in respect of damages to that £124 worth of occupation. It was a most serious thing. The whole of the negotiations might have been carried through between the middle of March and the middle of April, but several months were wasted. This was a very serious thing for the taxpayer. It need never have been incurred. The Commission reserved their decision.

Bequests by will for public and charitable purposes are ticklish things to tackle. Builders are much interested in these matters, for gifts of this kind usually end in bricks and mortar. The law, with sardonic humour, lays it down as a first principle in construing a will that the intention of the person who made it shall be supreme and over-riding. When the meaning of a clause comes to be considered in Court, however, it is found that the words used in it have to be weighed and looked at by the light to be drawn from a very jungle of decided cases going back for many years. The recent case of "Houston and Others v. Burns and Another" is a good example of the way in which the clear intention of the testator may be defeated by the Court in following the best authorities. It was a Scotch case, which, after passing some profitable time amongst the Courts of Scotland, has now, at last, been ended in the House of Lords. An old lady left a will in which she gave the residue to trustees to apply it in their discretion "for such public, benevolent, or charitable purposes in connection with the Parish of Lesmahagow, or the neighbourhood," as they thought proper. Now mark the commas, for it was these two commas that caused all the trouble and cost so much money. What was to be done about the commas? asked the Law Lords. They were in the original will, put there innocently enough by some

copying clerk. In solemn judgment the House of Lords held that, without the commas, the trust would have been valid and this parish would take the money, and could use it for public benevolent or charitable purposes. But with the commas, and there they were sure enough, the clause became disjunctive, and so the law held the gift was "void for uncertainty," which may remind some of Satan rebuking sin. Thus these two unlucky commas quite defeated the old lady's clear intention. The bequest was bad, and so this money goes to some relatives whom she certainly never meant to benefit.

It would not be easy, we agree with the *Guardian*, to parallel in the literature of psychical research or elsewhere the singular and rather startling claim put forward by the late Mr. Francis Bligh Bond to have been guided to a remarkable architectural discovery by means of written communications from monks and workers of Glastonbury, who have long since passed "within the veil." This, however, is the gist of an exceedingly curious personal record, "The Gate of Remembrance," published through Mr. Blackwell, of Oxford, at 6s. net. In the Introduction he assures us, upon sufficient evidence, that the communications upon which he acted were received prior to the investigation which led to his discoveries. It is, however, noteworthy that a professional man of Mr. Bond's eminence and authority should lay claim to such guidance at all, and that he should be able to point to results so definite and substantial. He backs his conclusions by many facsimiles of the "writing," as well as by plans and illustrations of the venerable Abbey, both in its glory and in its decay. Certainly, says the *Guardian*, if any building in the world should retain links with those who once inhabited it, it should be the hoary pile that is bound up with legends of St. Joseph of Arimathea and the Holy Thorn and the earliest introduction of Christianity into Britain, not to speak of its having contained the tomb of that legendary King whose name still stands for all that is loftiest in the tale of English chivalry.

The last issue of the informative illustrated brochures of the British Reinforced Concrete Engineering Company, Limited, 1, Dickinson Street, Manchester, contains an interesting paper on "Road Maintenance in Former Times," in which the efforts of the mediæval Church and the benevolence of private citizens strove to make up for the neglect of the roads that so heavily penalised the travellers of the times. Cambridge and its vicinity seem to have been particularly lucky in this respect, and several instances are given, including a portion of the London road between Barkway and Horstead, for the repair of which a London haberdasher left £13 4s. annually, probably in thankfulness for his own escape sometime or other from the perils attendant on its bad condition. Others also similarly contributed, and an illustration

of the road is given and of Maud Heath's Causeway, Chippenham, which was similarly endowed by a benevolent widow to the extent of £8, now, however, worth £300. To-day, thanks to the excellent system of road reinforcement on the "B. R. C." system, no excuse remains for road neglect, for its economy and permanence have been abundantly demonstrated wherever used, as in several recent instances at Manchester, Lincoln, and elsewhere, of which particulars and illustrations are given in the pamphlet, which will be of interest to all concerned with road maintenance.

THE LOCAL GOVERNMENT BOARD AND R.I.B.A. COTTAGE COMPETITIONS.

THE SOUTH WALES AREA.

Section IV. of the Housing Competition covering the South Wales area, promoted by the Local Government Board and conducted by the South Wales Institute of Architects, has been settled with commendable promptitude. Designs were to have been delivered by January 31 last, and on February 8 the results were announced in the local newspapers. The Committee of Assessors consisted of Professor S. D. Adshad, M.A., F.R.I.B.A., with the following local gentlemen: Mr. Alfred Swash, F.R.I.B.A., and Mr. J. F. Groves, F.R.I.B.A., both of Newport, Mr. D. M. Jenkins, of Neath, and Mr. J. W. Smith (Chief Architectural Assistant), City Hall, Cardiff.

Considering the number of the younger members of the profession who are now serving with the Forces, and to whom a competition of this kind would have made a peculiar appeal, the response of 148 designs in the four classes can be considered very satisfactory. Of course, the bulk of these designs came from the district itself; but examples were also submitted from places as far afield as Dublin, Paisley, and the East Coast.

The general conditions under which this competition was held were published by ourselves when announced, and it is not necessary to make more than a casual reference to them now beyond recalling the recommendations to competitors that they were not to consider themselves bound by existing bye-laws, and that every economy in arrangement, materials and methods of construction should be carefully studied. It was recognised that estimates of cost were impossible as things stand at present, and so cubical contents and general descriptions only were called for.

Designs were invited in four classes and premiums allotted for the first and second in each class, with power given, however, to the assessors to recommend designs of exceptional merit for further premiums or honourable mention. Each class was to illustrate three types, one end or semi-detached house, one a terrace house with 18 ft. frontage and lighted from front and back only, and one only one room deep, but with as wide a frontage as the competitor chose to give it. These were to be illustrated as grouped together, and whilst this gave play for some interesting elevational treatment, its real effect has been rather misleading, as the designs in many instances show breaks of frontage and roofs that would not appear if groups of each sub-type dwelling were erected together, as is doubtless the ultimate intention.

So far these considerations apply generally to all parts of the country, but there are special features appertaining to housing in South Wales that require careful attention. The population is mainly an industrial one, engaged primarily in coal mining, and concentrated in small areas owing to the geographical circumstances of the district. The mining valleys afford very little level ground, and on the sharply rising hillsides the less depth a building has the easier it is to place it there at all. Driving rains which are very penetrating prevail at certain seasons, and the walls and roofs must needs be substantial to keep the weather out, and foundations must be spread to minimise risk of subsidence, from which trouble is always arising in mining districts such as these. Stone is the general walling material of the area, owing to its being easily and freely procurable on the spot—nevertheless the bulk of the designs show 11 ins. brick outside walls (cavity), probably anticipating that the easier handling of brick will level up expense in the future under this head. The collier's calling also necessitates the bath being provided on the ground floor, to be used directly upon his return from work.

Having instanced these typical considerations, the reader will readily appreciate why an outsider might easily overlook essential requirements of the district, well known to the assessors, and why all the positions have been taken by local men.

As all the designs will doubtless be put to a working man's family, and it is stipulated shall contain a living room, scullery, etc., and three bedrooms. Fifty-seven designs were submitted in this class. The first premium (£100) was awarded to Mr. J. A. Hallam, of Cardiff; the second premium (£50) going to Messrs. Johnson and Richards, of Merthyr Tydfil; and a design by Mr. Thomas A. Beavan, of Cardiff, placed third.

As all the designs will doubtless be published in due course, one of the conditions being that payment of the premium conveys absolute possession to the promoters, presumably for official use, there is no particular objects in our going closely into them at this stage, especially in view of the difficulty of following the points without the illustrations before the reader. Suffice it to say that the first premiated designs are very carefully worked out in detail, and provide all the required accommodation in a most convenient manner. The living rooms in two out of the three types have one door only, and are lighted front and back. Through traffic is thereby avoided and the room made comfortable, the only minor set-off being that to pass the scullery one has to come out into the front entrance lobby. The elevations call for no special notice except on the score of economy. The cubical contents of the three average 9,300 ft. each.

The second premiated designs are not so economical, the cube averaging nearly 10,000 ft. each, and the designs placed third are larger still.

Class B.—These cottages were to be similar to Class A, with the addition of a parlour. Forty-one designs were submitted. The first premium (£100) was awarded to Messrs. Johnson and Richards, of Merthyr Tydfil; the second premium (£50) to Messrs. Arthur Ll. Thomas and Gomer Morgan, of Pontypridd; and a design by Mr. C. E. Lawrence, of Newport, was placed third.

Class C.—Similar to previous class, with a parlour, but there were to be two bed-

rooms only. Why, the Local Government Board only knows! Thirty-two designs were submitted in this class, and the first premium (£100) was awarded to Messrs. Johnson and Richards, of Merthyr Tydfil; the second premium (£50) being taken by Mr. Charles A. Broadhead, borough architect's office, Swansea; and a design by Messrs. Wm. Eaton and Cooper, of Cardiff, placed third. The difficulty of using up the space on the first floor was solved in the first premiated designs by giving excessively large bedrooms. The second and third designs each show the bathroom placed on the upper floor; but this seems inadmissible in a collier's cottage. Imagine a man coming home from the pit laden with coal-dust and having to go upstairs for a bath! Also, it increases the length of piping for hot water supply.

Honourable mention is given in this class to help Arthur Ll. Thomas and Gomer Morgan, of Pontypridd, who in their design retain the bath on the ground floor (in scullery), but deal with the problem by cutting their roofs very low and studding up at a reasonable height, thereby diminishing the space covered. They have very high-pitched roofs and dormers, which produce a picturesque elevation, but would use up a lot of timber.

Class D was a variation of either A, B, or C, planned entirely or mainly on one floor. The first premium (£100) was again taken by Messrs. Johnson and Richards, of Merthyr Tydfil, Mr. A. F. Webb, of Blackwood (Mon.) being given the second premium (£50), and Mr. Thos. Gibb, of Port Talbot, received third place. This class was the least popular of all, only eliciting eighteen designs.

The successful design was in effect a fairly well-arranged bungalow. Class D produced the inevitable "freak" design, a block of three houses with the centre one arranged on an octagonal plan, and an elevation of the whole group not altogether unpleasing but more reminiscent of a seaside pavilion than of a cottage design. And it ended to 18,900 feet.

On the whole, it cannot be said that the South Wales Section of this competition has advanced cottage planning to any appreciable extent. Nothing very fresh or unique has been produced, but the better designs evidence care and thoroughness in thinking and working out details rather than attempt to break new ground. Reinforced concrete floors are practically the only new material suggested.

The plans, however, are far in advance of those illustrated as typical in the memorandum just issued by the Local Government Board for the guidance of local authorities in housing matters, and it would, in our opinion, have been much better to have withheld those rather crude examples until this competition in all districts had been settled.

At last week's meeting of the Royal Archaeological Institute Sir Edward Brabrook referred to the threatened destruction of St. Olave's Church, Tooley Street, and moved a resolution deprecating its demolition. If it could not be saved it might be bodily removed to a new site or the tower left standing. Sir Henry Howorth seconded, and the resolution was carried.

At a meeting of the British Archaeological Association last Thursday, Mr. A. Charles Knight read a paper on "The Tallow Chandlers' Company." There was a conflict of prices, it seems, even in the early days of the Guild, for in 1551, when complaint was made that candles were sold at more excessive prices than in the past, to the hurt of the poor folk of the city, the company refused to sell at all, and the King in Council had to issue an order that the usual prices be continued.

SELECTED DESIGN, NATIONAL UNIVERSITY OF IRELAND NEW BUILDING, UPPER MOUNT STREET, DUBLIN.

(WITH ILLUSTRATIONS.)

The Senate of the National University of Ireland recently invited architects living and practising in Ireland to submit designs for the new building which is to be erected on the site allocated for the purpose in Upper Mount Street and Lower Fitzwilliam Street, Dublin. Mr. C. J. MacCarthy, LL.D., F.R.I.B.A., was appointed assessor, and his award was, as previously recorded in our pages, confirmed by the Senate—viz., Messrs. W. G. Clayton and W. Sedgwick Keatinge, MM.R.I.A.I., were placed first, Messrs. O'Callaghan and Webb second, and Mr. E. Bradbury (also of Dublin) came third. There were fourteen sets of plans submitted, including one by Messrs. Fennell and Clarke, of Belfast, and another design by Mr. Arthur Hill, F.R.I.B.A., of Cork. Premiums of £100 and £50 were given respectively to the authors of the two premiated schemes placed second and third, and the architects of the chosen design will carry out the buildings. The amount to be expended was approximately fixed at £19,000, exclusive of furniture and fittings. The intention is to employ Irish materials, and the style of architecture had very properly to be in character with the surroundings and also treated without needless elaboration. This stipulation has been admirably realised in a dignified and unpretentious manner, as will be seen from the reproductions which we publish to-day of the elevations and plans by Messrs. W. G. Clayton and Sedgwick Keatinge, who have managed successfully to follow the Classic tradition so distinctive of the best historic buildings in Dublin. A suitable recognition, too, of the purpose for which this central University addition to the city institutions is shortly to be erected has been ensured in a very simple way. Mount Charles stone and County Dublin granite will be used for the façades.

The accommodation provides a senate room with a floor area of 1,800 sq. feet; a large examination hall, 5,000 sq. feet floor space, suitably provided for big meetings and having lavatories and cloakrooms en suite. A smaller hall of about 1,400 sq. feet is contrived. The entrance hall also had to be made a distinctive feature of the building, and attached to it a porter's lodge, telephone place, and a room for visitors. There are, of course, sitting-rooms for the Senate and their robing-rooms, including a special one for lady senators. The chancellor's room is supplemented by another for the vice-chancellor, the professors' and examiners' rooms; added to which are the apartments to be occupied by the registrar, chief clerk and accountant, clerk to convocation, and ten separate offices for the staff. The reference library and rooms for a caretaker, as well as ten storage rooms, form part of the lay-out, with a goods entrance from James Street East. The plans at once show the ingenious disposition of these several departments to be housed in this comparatively small and compact building, which appears to be well lit in all respects. The successful architects decided to make their examination hall an entirely separate building, and, besides thereby ensuring a direct light to every corridor and room, the advantage of isolation is made manifest, inasmuch as the hall may be used on occasion for public concerts as well as

general meetings in the evenings or day-time. The office part of the premises is thus immune from noise incidental to such gatherings. This plan was the only one submitted which attempted to solve the problem by two distinct buildings, the advantage of which is beyond doubt.

All the walls are intended to be in brickwork, with the exception of the basement, where granite rubble masonry or concrete may be employed up to the ground-floor level, and the existing area walls will be retained. The old bricks from premises now standing on the site, which are to be removed, will serve for backing the new work so far as available, and where new, Dublin County stocks will be used. The sloped roofs are to be covered with slates, and the concrete flats asphalted. Iron principals are proposed for the examination hall, and other roofs combined with reinforced concrete construction for the upper floors; oak wall panelling and cornices for the senate-room, and in the big and small halls red pine wainscoting. Wrought-iron railings will set off the façade, which, as we have already indicated, will be faced with Mount Charles stone and local granite. The total cost, exclusive of fittings and furniture, but including heating and electric lighting, is estimated by the authors at £23,149. Mr. W. G. Clayton was for fifteen years assistant to Messrs. W. H. Byrne and Son, of Dublin, and has travelled considerably on the Continent. He recently started practice in the city, where he is well known. Mr. Sedgwick Keatinge, also a member of the Royal Institute of the Architects of Ireland, has been for several years employed by the Board of Works, Dublin. He was a long time assistant to Mr. Bradbury and also to Messrs. O'Callaghan and Webb. (The last-named firm won the second position, and the first the third place in this competition.) Mr. Keatinge has had experience in the office of one of the leading architects in California, and has travelled over the United States of America, British Columbia, and Canada, as well as in Europe. At an early date we shall add to our present illustrations of this selected design for the National University of Ireland by giving a reproduction of the detail of the front elevation.

THE UNITY OF THE PROFESSION.

DISCUSSION AT THE SOCIETY OF ARCHITECTS.

Last Thursday evening Mr. Herbert Wigglesworth, F.R.I.B.A., read an interestingly suggestive paper at the meeting of the Society of Architects at their house in Bedford Square, London. Its subject was the Unity of the Profession. Mr. E. J. Sadgrove, F.R.I.B.A., president of the society, was in the chair.

In the course of his remarks Mr. Wigglesworth said that the need for unity was so apparent, and sympathy with the idea so general, that the failure hitherto to attain it required to be better understood. The Associates of the Institute had been regarded as opposed to unity; but their objection was apparently not to the principle, but to any change prejudicial to the value of the diplomas they had won. No interference with these would be required by the carrying out of his suggestion, which was the formation of a committee similar to the Architects' Reorganisation Committee, but acting as a permanent Council of the whole profession. Were such a Council once established the first step towards unity would be attained. In the new conditions thus established literature, art, and science could claim more than academic interest, and professional defence could be made general and effectual. The Society of Architects already possessed a strong committee representative of archi-

ture and the law, which only needed general support to be of positive value. Benevolence was now left to voluntary effort; it should be scientifically studied by the general body, so that the unfortunate might not unduly suffer. The claims of students and assistants deserved far more generous consideration than they now obtained, especially as the return of the younger members of the profession from the war would bring serious problems. The education of the public and the promotion of an interest in architecture required active development and widespread propaganda; the collective effort of architects was required for this. Besides these matters there were many others in which architects working in combination could make themselves more efficient. For example, experience in building had given every one of them some special information as to builders and materials. Such information might be made available by the general body of architects. Co-operative effort might also be applied to the testing of materials and in the employment of consultants.

Coming to the question of registration, the lecturer said: Thus unified, the profession is in a position to deal with the question of registration. Though personally I am averse to State interference where independent action can be achieved, the strong body of opinion in favour of Parliamentary registration cannot reasonably be ignored. But it cannot be overlooked that much opposition is to be expected from kindred professions and trades. The powers obtained and tyrannically exercised by some of the other professions have done much to destroy the prospect of similar concessions being obtained in the future. Nor has legal opinion been favourable to the enterprise, and as social problems will make serious calls upon the Legislature for many a year, considerable patience will be required before the affairs of architects are likely to be considered. Even if unexpectedly achieved, the interpretation of new laws inevitably becomes the subject of frequent encounters before the various tribunals of the State. There are risks accompanying these which cannot be regarded without apprehension. I would now ask you to give some consideration to the institution of a simpler scheme of registration than any that has been attempted in the past. My proposal is registration, divorced from the incubus of professional diplomas or legal sanction. This may reasonably be expected to give us all the control which is required. Nothing need be attempted that is not amongst the desiderata of every professional or trade union and of every philanthropic movement now existing. Such a scheme would at once remove the question of registration out of the realms of party controversy, and would tend to cultivate human instead of academic or legal bonds. The unity thus established would be of inestimable value, and the power thus made instantly available would be immense. Registration generously offered would disarm many opponents, and would, it might be confidently anticipated, arouse feelings of loyalty amongst many of those who would regard Parliamentary registration as a serious menace to their liberty.

DISCUSSION.

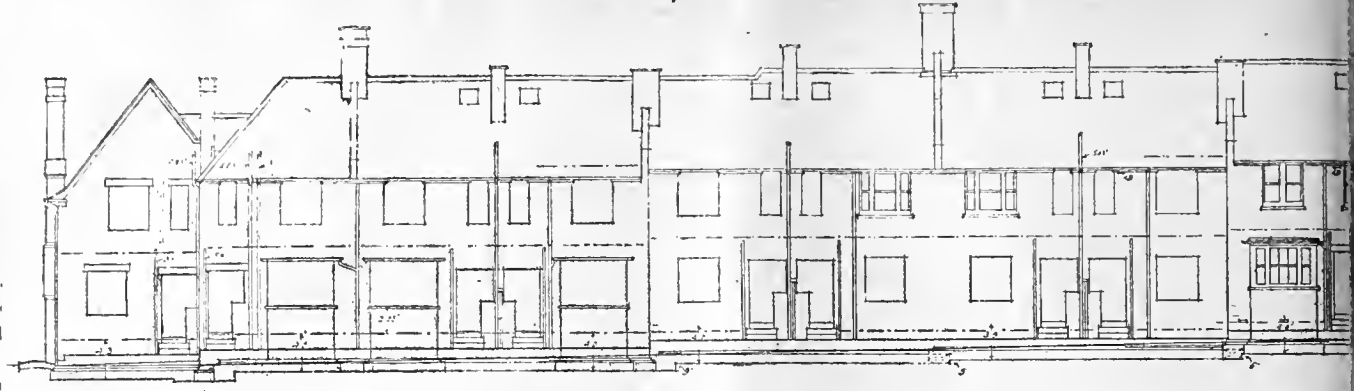
Mr. H. V. Lanchester said he would like the lecturer to put a little more clearly his point in regard to registration. He (Mr. Lanchester) did not see how it would be possible to exercise discipline over those who were registered except by putting wilful offenders off the register. He recognised the difficulties of Parliamentary registration, but did not think the public would be satisfied with the informal registration that had been suggested. The co-operative office was a hobby of his own. His idea was mainly that in the co-operative office each member should have a special function—that for which he was best qualified. He felt that the unity which Mr. Wigglesworth had pleaded for was one of the great things needed. If they could get through all ranks of the profession a common feeling as to what they were aiming at, how best to achieve that aim, and how the public could get the best service from the profession as a whole, they would advance by leaps and bounds in the estimation of the rest of the nation.

Mr. C. McArthur Butler (the secretary of the society) said the ideal in any profession was to have one representative body. Unfortunately, in the architect's profession there were so many bodies that it was very difficult to bring them all into accord so as to make them all work together. It was a very great pity, in his opinion, that the occasion for founding the Society of Architects ever arose, but that society was now firmly established, and when any question of unity came along it had to be reckoned with. The view hitherto held had been that registration should be accomplished by Act of Parliament, and, personally, he still thought that was the only direct method of getting absolute discipline into the profession, but in the meantime a great deal might be done on the lines suggested by Mr. Wigglesworth. All schemes of fusion had been, so far as he (Mr. Butler) knew, stepping stones to some form of statutory registration, and he was very doubtful whether any form of voluntary registration would have quite the same effect as one that had some legal backing behind it. In the case of a voluntary association it would not be necessary to be a member in order to practise, whereas, if a body had statutory powers, when it struck a man off the rolls it prevented him going on practising. When war broke out, and the Architects' War Committee was established, he (Mr. Butler) had suggested that that committee should continue in peace times in order to deal with matters of interest. He still hoped that would take place, and that the council Mr. Wigglesworth foreshadowed would in some form become permanent; but, with all the goodwill in the world, there were certain practical difficulties that would prevent absolute fusion between the two bodies. Mr. Wigglesworth had referred to the welfare of the students. This was a matter that had been much neglected, perhaps because the assistants had not made themselves heard. An attempt to form a guild of architects' assistants, made some time ago, had come to nothing at the time, but the question had been recently revived, and a Committee of Welfare established for the purpose of watching the interest of assistants as separate from practising architects. He thought that would tend to remove some of the disabilities that had been referred to. The education of the public was a matter in which he was much interested, especially as concerned firms that, without being architects, or perhaps calling themselves by that name, trespassed very considerably on the province of the architect, very much to his detriment. The public should be taught that it would be to its advantage to deal with a known architect.

Mr. A. R. Jemmett said that if a superior General Council such as Mr. Wigglesworth proposed were established, London would still be left without any society of its own. One course would be to make the Institute and the Society both London societies, and let provincial architects belong to local societies which would send representatives to the General Council. That would still leave two competing societies. What was wanted was a united society similar to the Royal Astronomical Society or Royal Geographical Society, before which General Smuts had lectured the other day. These were open to the membership of others than professional astronomers or geographers, and it was certain that their influence was greater on the Government and on public opinion than that of any architectural society. After the war architects would be looked upon as rendering a bit of public service, and if they did not give that service they would have to go. Building to amuse the wealthy was a kind of luxury architecture which had belonged to the aristocratic eighteenth century. A few men who practised it had hung on through the industrial period; but now it had gone, and it was absolutely necessary for architects to have some form of unity if they were to deal with the public and explain their position. The atmosphere was now ripe for an attempt to get definite unity; but if Mr. Wigglesworth had delivered his address before the war he would have been looked upon in the same way as a parson who preached in a Nonconformist pulpit.

(Continued on page 135.)

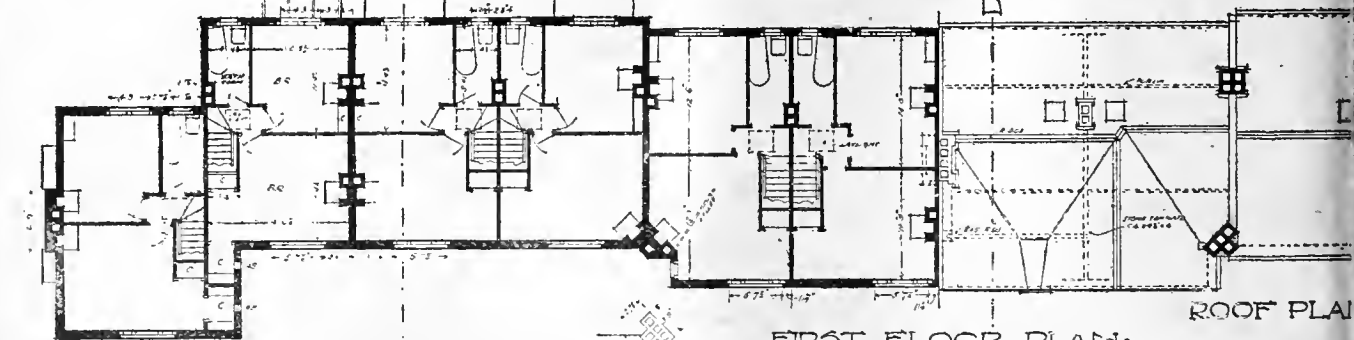
L.C.C. TOTTERDOWN FIELDS TOOTING.
SECTION C. 7TH PART. BLOCK NO 82.



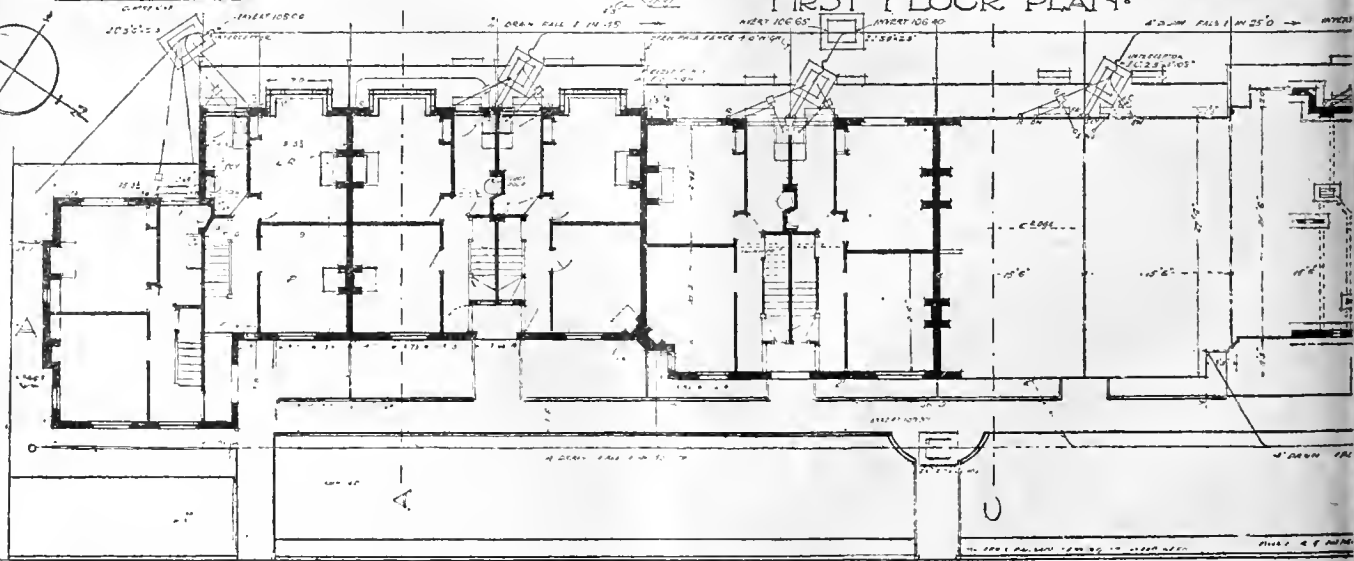
BACK ELEVATION.



FRONT ELEVATION.

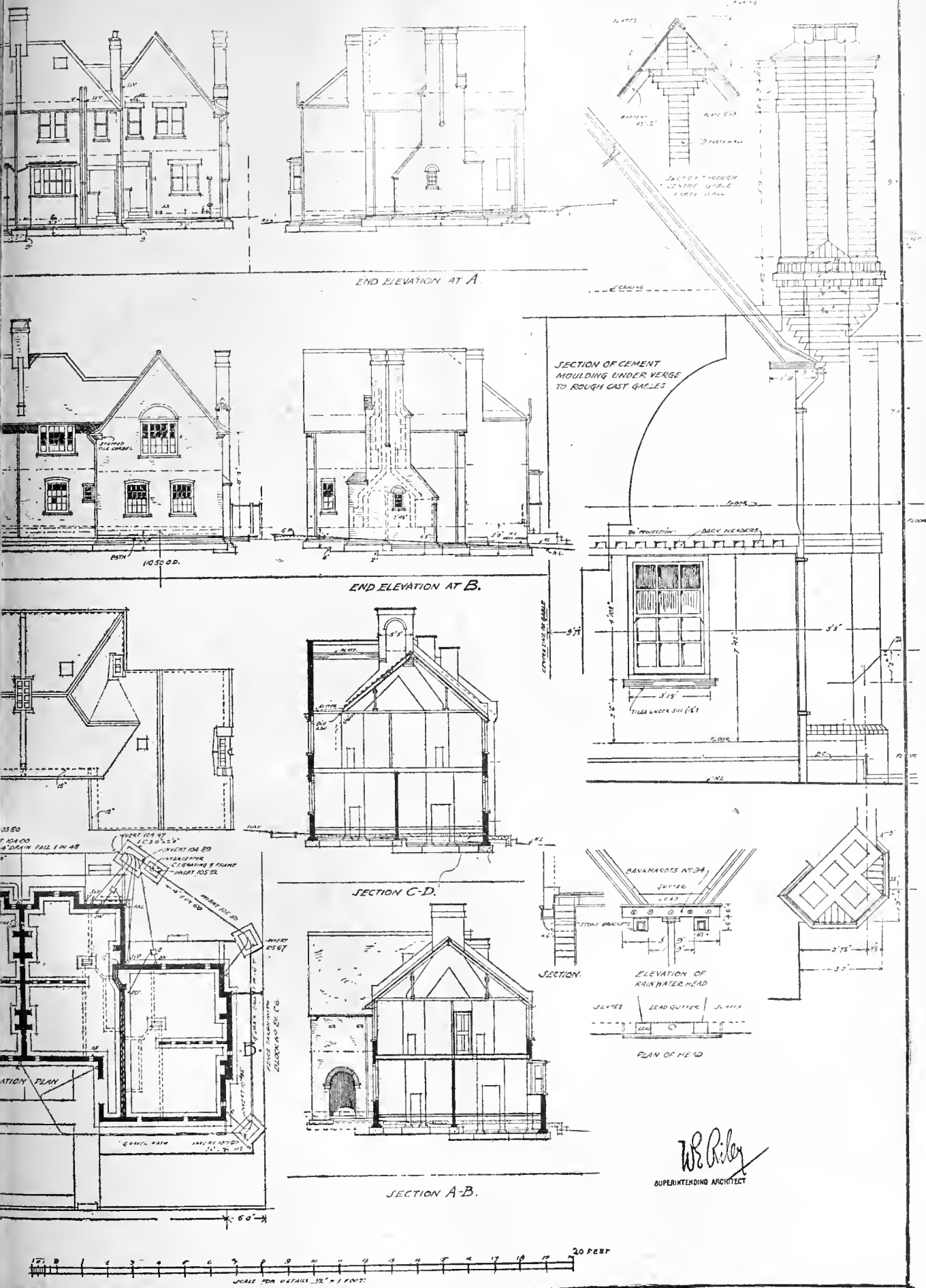


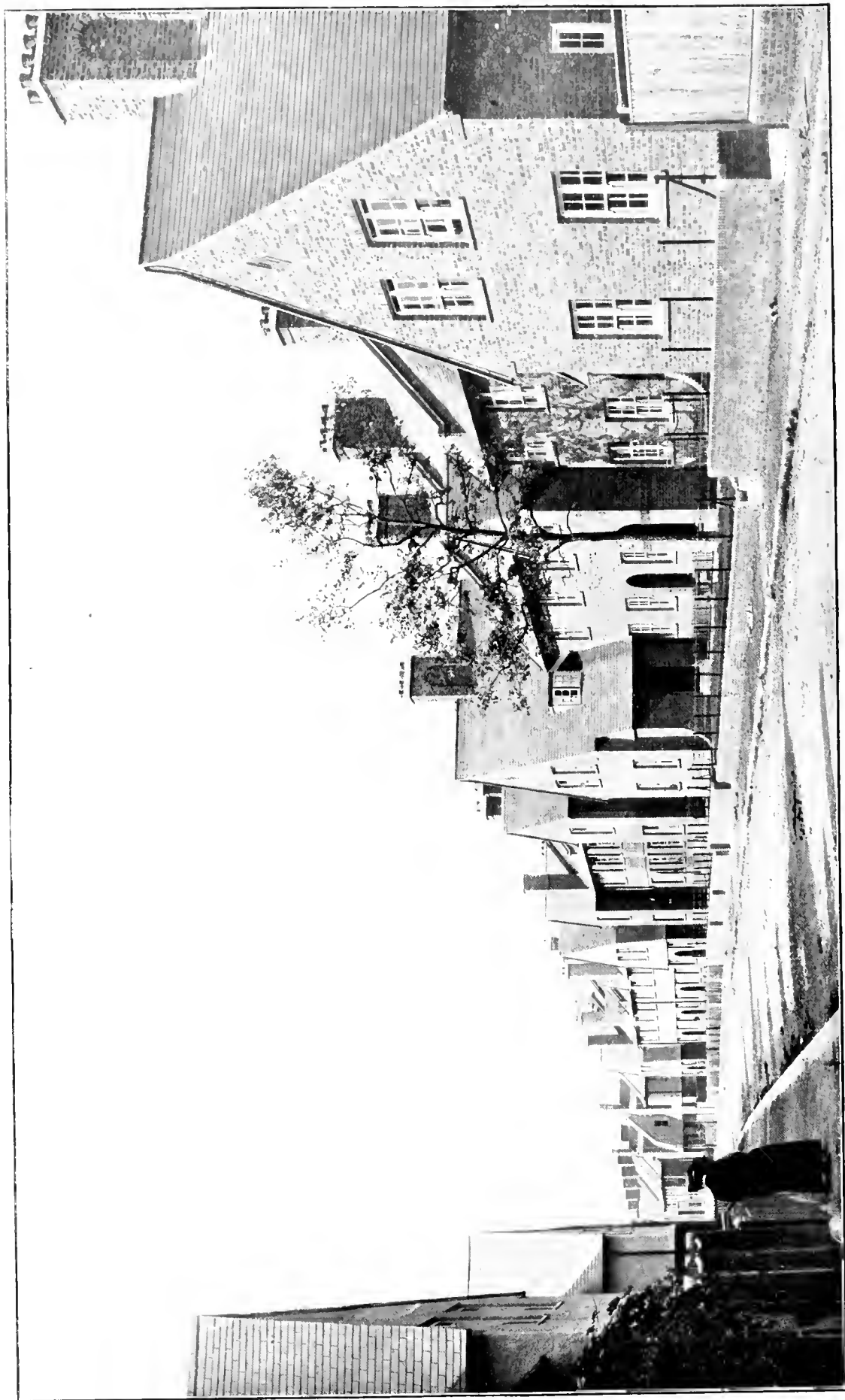
FIRST FLOOR PLAN.



GROUND FLOOR PLAN.

ALLS AND NOTES GENERALLY SEE WORKING DRAWING NO. 1



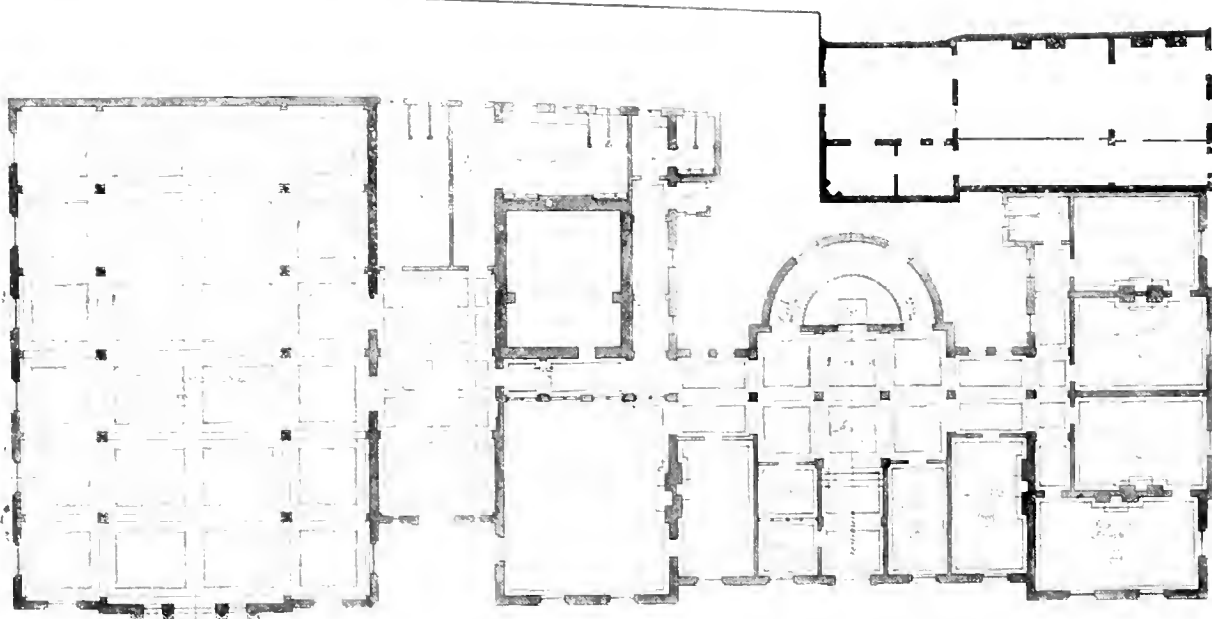
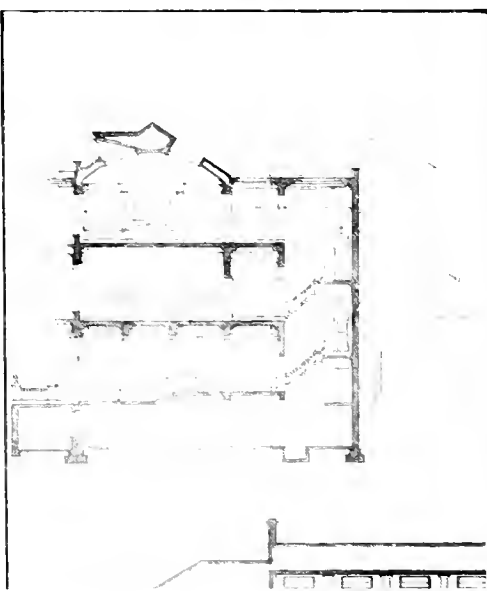
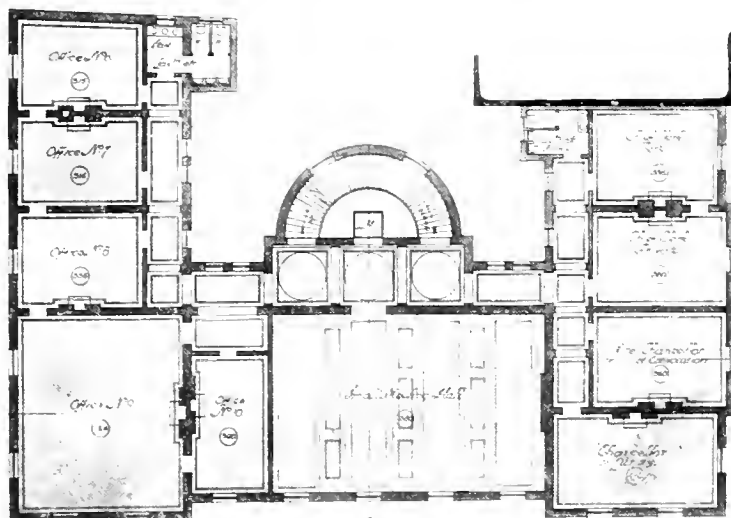
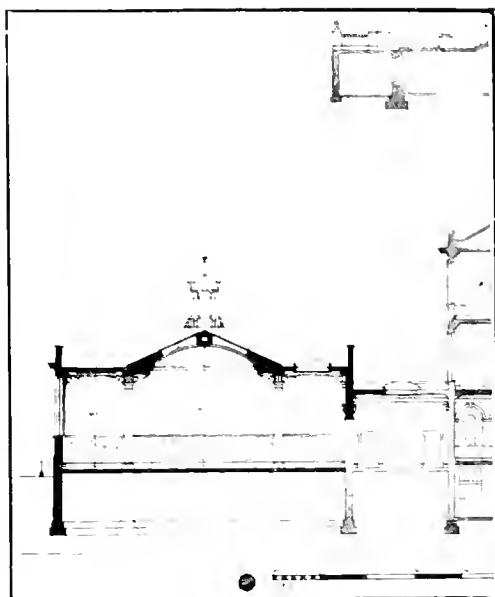
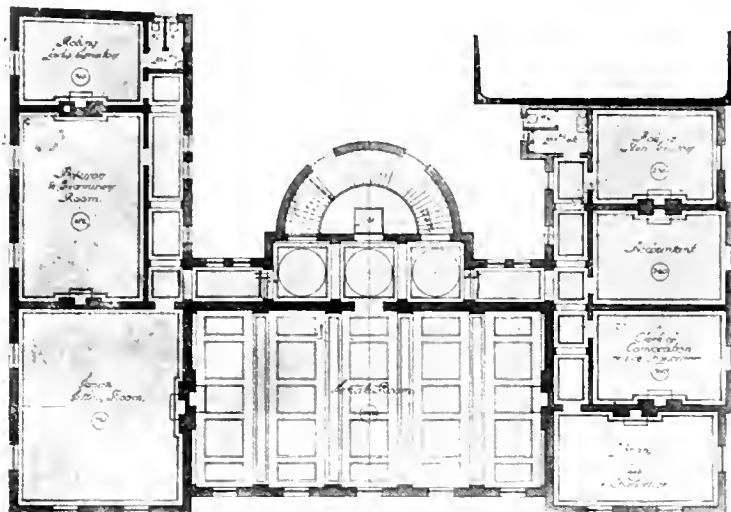


LONDON COUNTY COUNCIL'S BETTER HOUSING FOR THE WORKING CLASSES.
TOTTENHAM FIELDS ESTATE, TOTTENHAM, S.W.
Mr. W. E. RILEY, F.R.I.B.A., Superintending Architect, L.C.C.

THE BUILDING NEWS, FEBRUARY 13, 1918.

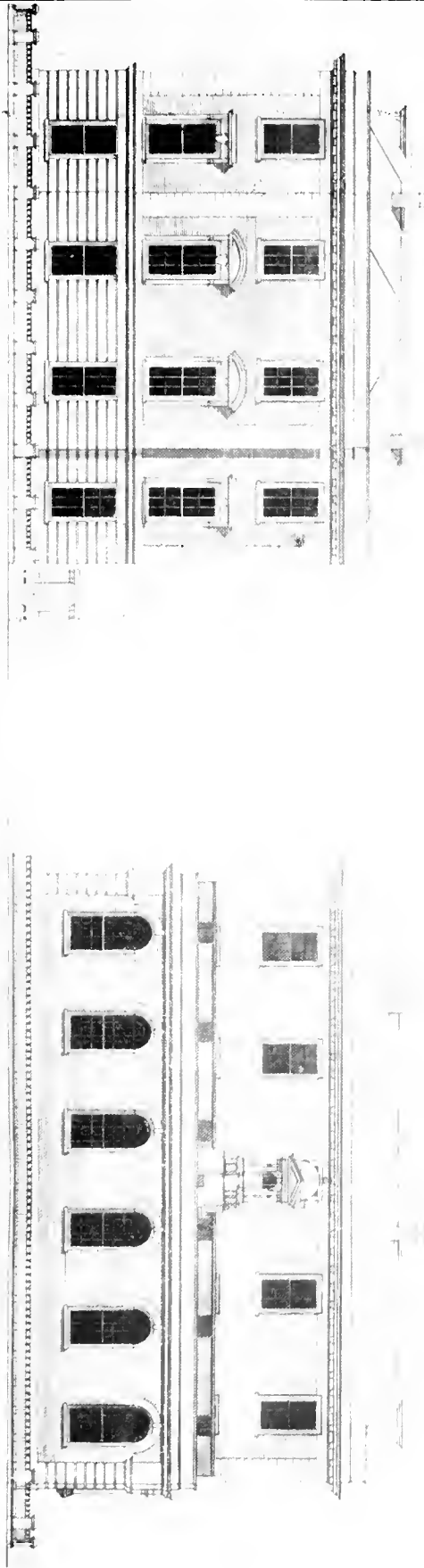
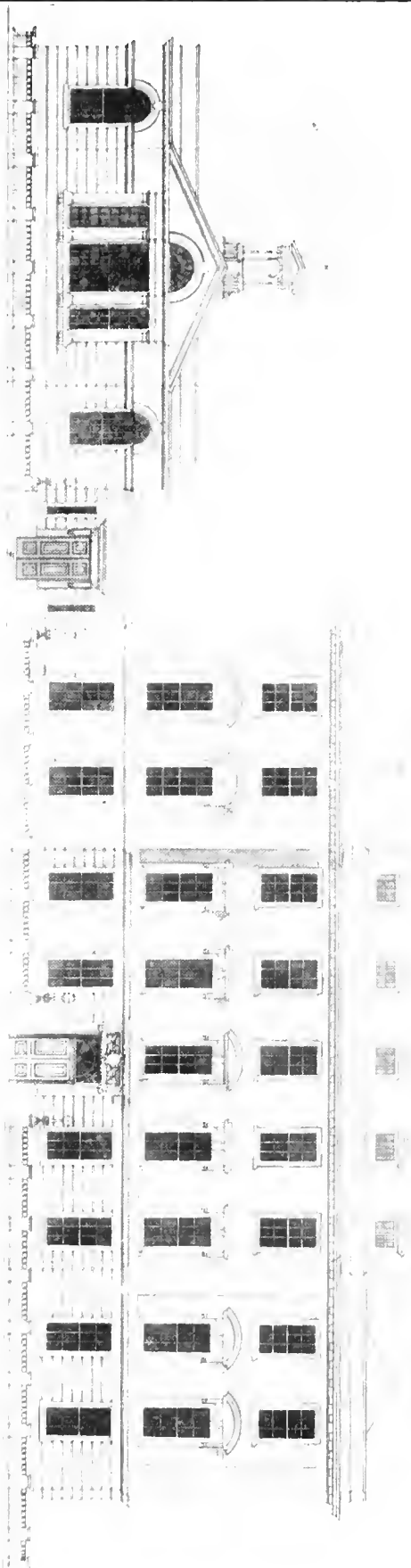


LONDON COUNTY COUNCIL'S BETTER HOUSING FOR THE WORKING CLASSES.
TOTTERDOWN FIELDS ESTATE, TOOTING, S.W.
MR. W. E. RILEY, F.R.I.B.A., Superintending Architect, L.C.C.



Chancellor, Photo]

SELECTED DESIGN, NATIONAL UNIVERSITY OF IRELAND NEW BUILDING, DUBLIN.
Messrs. W. G. CLAYTON and W. SLDGWICK KEATINGE, MM.R.I.A.I., Architects.



Chancellor, Photo] SELECTED DESIGN, NATIONAL UNIVERSITY IRELAND NEW BUILDING, UPPER MOUNT STREET, DUBLIN.

Messrs. W. G. CLAYTON and W. SEDGWICK KEATINGE, M.M.R.I.A.L., Architects.



THE UNITY OF THE PROFESSION.

(Continued from page 122.)

Mr. R. G. Lovell said he was inclined to agree that the atmosphere was ripe for attacking the question of unity. He was a member of the Institute, but had to say, with regret, that it was the Institute which had blocked the way to unity all the way through. It had been agreed that no architectural problem such as that of fusion should be discussed during the war, and it would be breaking faith with the young men at the front to go from that promise; but unity was another thing. There was the possibility of falling in with the suggestion put forward at this meeting.

Mr. Ellis Marsland said the obstacle to unity was class distinction. The A.R.I.B.A.s considered themselves to be a superior lot. But these were democratic days, and the general public did not care what letters a man had after his name. The sooner these distinctions were swept away the better, and the first step should be to amalgamate the two societies. Having done that they could go further. (Applause.)

Mr. D. Barclay Niven said it was perfectly possible to do what Mr. Wigglesworth had proposed with a little combination, and combination was in the air. The Reorganisation Committee could be the starting-point for registration. The first thing was to combine, and if the licentiates of the R.I.B.A. would combine and come under the aegis of a central society that would be something towards it.

Mr. E. J. Kibblewhite recalled the time, thirty-three years ago, when, with considerable hesitation, he had consented to assist in the formation of the Society of Architects. It had been meant to be something on the lines of the learned societies Mr. Jemmett had mentioned, but had developed into another Institute. The formation of a board of control, as was now suggested, might lead up to some such situation as that in the trade union world; where some of the trade unions had broken away from the Federation of Trade Unions because of a difference of opinion about the strike on the Clyde. He thought the proposal that, as a preliminary step, the present committee should be used was an admirable one. He was sure the State would not give Parliamentary registration to any profession not completely united as to what it wanted, and ready to admit some sort of appeal to some Department of State in case of decisions arrived at unjustly against individual members of the profession, or against genuine public interest.

The Chairman in his summary of the discussion, touched briefly on one or two other aspects of the question, after which Mr. Wigglesworth replied to some of the points raised.

The following resolution was carried: That this meeting send a recommendation to the Architects' Reorganisation Committee asking it to consider what steps can be taken to carry into effect any of the measures for unity mentioned in Mr. Wigglesworth's paper.

On behalf of the meeting the Chairman thanked Mr. Wigglesworth for his address, and this ended the meeting.

OBITUARY.

The death of Mr. John Clarkson, F.R.I.B.A., F.S.I., District Surveyor for All Saints, Poplar, occurred on the 5th inst. at his residence, 15, West Hill, Highbury, in the eightieth year of his age. For very many years he was in partnership with his brother, the late S. Flint Clarkson, their joint offices being Ormond Chambers, Great Ormond Street, W.C., and at St. Albans, Herts. The firm carried out many buildings, including public baths, libraries, and schools, but the deceased was best known in connection with his extensive practice as a surveyor and valuer of property, more especially in connection with the London County Council Building Acts, in which he had a long and continuous experience.

It has been decided to erect a new aisle at St. Andrew's Church, Kettering.

Our Illustrations.

SELECTED DESIGN, NATIONAL UNIVERSITY OF IRELAND NEW BUILDING, UPPER MOUNT STREET, DUBLIN.

For description of this building see our article in regard to the recent competition printed on page 121.

THE LONDON COUNTY COUNCIL'S BETTER HOUSING FOR THE WORKING CLASSES.

THE TOTTERDOWN FIELDS ESTATE, Tooting.

In our four last issues, dealing with the work of the London County Council, we have described and illustrated its estates at Old Oak, Hammersmith; Norbury, Croydon; and White Hart Lane, Tottenham. We now give illustrations of the Tootingdown Estate, Tooting, to which the Council devoted its energies early in 1899 under its powers under Part III. of the Housing of the Working Classes Act of 1890. The property extends from Tooting High Street to Church Lane; and, excluding the frontage to Tooting High Street, had an area of about 38½ acres. Difficulties arose during the negotiations, and it was not until January, 1900, that the Council agreed to purchase the property, excluding the Tooting High Street frontages, at the price of £1,150 per acre, or a total of £44,238 for the 38.75 acres. The first contract was let in August, 1901; the work was carried out under 25 contracts, and the estate was completed in October, 1909. The accommodation provided is for the estate office, 4 shops, 175 five-room cottages at 10s. 6d. to 13s. 6d. per week, 413 four-room cottages at 9s. to 11s. per week, 623 three-room cottages at 6s. 6d. to 9s. per week, and 50 two-room flats at 6s. 6d. per week, making a total of 1,261 lettings, in each case including all rates and taxes. The total accommodation (taking two persons per habitable room of not less than 96 feet super.) is for 7,524 persons. The actual population in March, 1915, was 4,424 in 32.5 lettings per acre. The cost was, for land, £44,934; roads, sewers, etc., £32,668; making a total of £395,504. The five-room cottages cost from £239 to £420 each; those with four rooms, £200 to £353; those with three rooms, £180 to £234; and the two-room flats from £415 to £423 a pair, including professional expenses. The average cost per room, including buildings and plans, was £70.7; and per foot cube, 6s. 6d. The loss by empties in 1916-17 was £86 19s. 9d., and the surplus on the year's working £2,104 10s. 4d. The work was designed by Mr. W. E. Riley, F.R.I.B.A., the Superintending Architect to the Council, and carried out under his supervision.

A NEW METHOD OF CONSTRUCTING DIFFICULT FOUNDATIONS.

During the construction of the subways in New York City, particularly in the skyscraper district of Manhattan, a great deal of underpinning has been done. From experience in carrying on this work a new method of constructing foundations for new buildings has been developed. The method may be said to consist in underpinning the building during its erection, so that the construction of the foundation goes hand in hand with that of the building itself. It is evident that with such a method a great saving of time can be effected—where, for instance, caissons would be needed to carry the column loads and a spread foundation is out of the question.

In the new method the foundations are designed in the usual way as pile foundations. Steel shells for the piles are driven a small distance into the ground, from 5 to 10 feet, by means of a hammer, and are cleaned out and concreted. Wooden blocks 3 or 4 feet long are placed on top of the piles, and the space around the blocks and the tops of the piles is back-filled with carefully tamped earth. A reinforced concrete girder with the necessary grout pipes is then cast on the back-fill and posts, thus supplying a preliminary support for the column loads. The footing so constructed is ready for the begin-

ing of the construction of the building. When the building has reached three or four stories—of perhaps twenty to be built—the second stage of the construction proceeds. The column by this time supports sufficient weight for jacking purposes. Each wooden post is then removed and the pile jacked until the desired reaction is obtained. The load is then transferred to two I-beam posts or their equivalent on each side of the jack, the jack removed, and the I-beams concreted in as well as space allows. Final contact is made by means of the grout pipes.—E. A. Prentis, jun., in *Engineering News-Record*, December 6, 1917.

EFFLORESCENCE ON FACE BRICK.

Probably one of the things most annoying to architects and owners of brick buildings is the unsightly appearance of efflorescence on the brick every spring, in some cases completely covering the upper storeys.

It has been noticed that this is more pronounced under the copings, sills, belt courses, etc., or wherever a part of the building has been subjected to a greater wash by water. This indicates that the mortar, as well as the brick, is absorbent, causing the walls to become thoroughly soaked during the winter months, while the warm rays of the sun attract the moisture to the exterior, bringing with it the lime, magnesia, and alkali salts contained in both the brick and the cement mortar.

It is agreed by all interested in brick construction that both brick and cement mortar are absorbent, yet little has been done to overcome this objectionable, serious, and dangerous obstacle. Hydrated lime will add to the plasticity of the mortar, increase the density, and, being a water retainer, will add crystallisation when used in places where it is difficult to apply water at frequent intervals. Tests have repeatedly shown that slabs containing 10 per cent. hydrated lime, when taken out of the water, after one hour will contain a larger percentage of water than a similar sample of cement and sand, yet on the surface the lime sample is apparently bone dry.

The best-known solution of the above problem, which has withstood a test of over two years, having been adopted in the construction of a prominent Eastern college, is impervious cement mortar to consist of:

One part approved portland cement.

Three parts sharp, clean sand, showing not over 35 per cent. voids by water.

Ten per cent. of weight of the cement of hydrated lime (sufficient to add to the plasticity of the mortar and retain enough water to perfect crystallisation).

Two per cent. of weight of the cement, Medusa paste waterproofing. Each gallon (eight pounds) to be mixed with equal parts of water, later adding twenty more gallons. All mortar to be gauged with this solution.

If the sand is damp, a one to fifteen solution should be used to offset the moisture already in the sand.

All exterior brick and stone work to the depth of 12 inches should be embedded in this mortar.

The extra cost of waterproofing the cement mortar will not exceed 4s. per 1,000 bricks.—The "Contract Record."

Mr. Walter G. Bell will read a paper on "The Rebuilding of London after the Great Fire" before the Royal Institute of British Architects on Monday, March 4.

The old villager cross at Garston has been removed from the site on which it has stood for some hundreds of years to the rear of a Roman Catholic school. The Historic Society of Lancashire and Cheshire is taking steps to get the old landmark restored to its old position.

For the vacant position of borough surveyor and water engineer to the county borough of Blackburn, at a commencing salary of £1,000 per annum, sixty-three applications were received. The following five selected candidates were interviewed by the Selection Committee, viz.:—Messrs. A. W. Bradley, St. Helens; J. H. Drew, Grantham; A. T. Gooseman, Wigan; H. Holmes, Ossett; and T. Moulding, Exeter.

Correspondence.

DEMOBILISATION AND RECONSTRUCTION.

To the Editor of THE BUILDING NEWS.

SIR.—The Council of the Society of Architects having been invited by the Conference of Architects, Surveyors, and Builders, and by the Council of the R.I.B.A., to express its opinion upon the recommendation of the Conference in regard to demobilisation, and to support the resolution of the Conference and a general meeting of the R.I.B.A. on the question of the removal of building restrictions after the war, has unanimously passed the following resolutions:—

(1) "That the Council of the Society of Architects is of the opinion that the Conference of Architects, Surveyors, and Builders, as at present constituted, is not sufficiently representative, and should be enlarged so as to include representatives of the kindred societies and institutions, and of unions and associations of manufacturers and workmen engaged in the building industry."

(2) "That the Council of the Society of Architects is in sympathy with the proposals of the Conference in regard to demobilisation, and with the principle contained in and the objects of the resolutions passed by the Conference and by the general body of the R.I.B.A. relating to the removal of restrictions on materials and building operations after the war. The Council is not, however, in accord with the expressed terms of these resolutions, and is, therefore, unable to commit the Society of Architects to any proposals to co-operate in communicating these resolutions in their present form to the Government."—Yours faithfully,

C. McARTHUR BUTLER, Secretary.
The Society of Architects,
28, Bedford Square, London, W.C.

HOUSING AFTER THE WAR.

SIR.—Architects throughout Europe are concerned with the planning of cottages. It is not an easy problem, because the working man will ultimately decide whether they meet his wishes! Most of us have known expensive houses which the working man has refused to occupy, therefore the improvements and economics made must satisfy the artisan as well as the Government officials who will draw up the new bye-laws which should come in force before long.

It is said that new methods will receive the attention of the authorities, but that diffidence exists as to the adoption of any innovation unless it has been well tested.

I have been experimenting for many months with cement blocks, and with various renderings on them. I have proved that a $\frac{1}{2}$ -in. waterproofed cement facing to a porous concrete block is perfectly waterproof. I have also published a brochure giving the results of any experiments and suggesting many uses of waterproofed cement for cottage building. It will probably be news to some of your readers that the British Government have erected several hundred houses with 2 $\frac{3}{4}$ -in. coke breeze exterior curtain walls which are rendered with $\frac{3}{4}$ in. of Pudloed cement, that a flat roof can be made to span a width of 12 ft. 6 ins. without the use of girders, and that bay-window roofs of concrete can be laid to a width of 3 ft. to 4 ft. without reinforcement.

At my London office, 71, Newman Street, Oxford Street, W.1. I have a practical demonstration of the various methods of waterproofing concrete blocks. There are shown a number of tanks made of porous coke breeze concrete blocks—some with an ordinary cement facing and the others faced with Pudloed cement. The former tanks leak, whereas the latter are quite watertight. They can be seen in February during office hours by any interested person on production of their visiting card.

These and many other suggestions are gone into more fully in circular No. 15 above referred to, and I shall be glad to send it to any person who is interested in the housing question.—Yours faithfully,

J. H. KERNER-GREENWOOD.

TAPESTRY AS WAR MEMORIALS.

SIR.—Many students of literature, the drama, music, architecture, painting and sculpture, honourably disabled through the war on sea, and land, and in the air, will probably be unfitted to return to the art they studied and loved when they answered the call to arms. These men would gladly associate themselves with work, such as tapestry weaving, which would give congenial, remunerative, and less exacting employment than that which they practised in the time of peace.

The introduction of panels of tapestry as war memorials and rolls of honour, to hang in churches, in the halls of Universities, public schools, and public Corporations, as well as in private houses, would not only be valuable historical records in the future, but they could be lent and publicly exhibited from time to time to inspire patriotism throughout the Empire.

If the idea meets with a sympathetic and tangible response, training centres for tapestry weaving under the best masters, and studios with looms, silk and wool and other materials will be established as soon as a sufficient number of orders for work are given or promised, so that employment and the building up of a sound and solid foundation for the continuance and future welfare of the workshops shall be ensured.

It is intended that the artists and artist-craftsmen engaged in production, whatever their position, shall participate in the proceeds after all legitimate claims have been discharged.

Several families might like to combine, if they had the opportunity, to present to an institution a memorial panel of tapestry containing the names of their sons, their escutcheons, together with symbolical figures commemorating the deeds of their heroes on the field of battle.

Such memorials in our schools would encourage the youth of this and future generations to emulate the splendid, sterling virtues of the old boys who so bravely fought in the great war, and no better or more lasting tribute could be paid to their glorious memory than a beautiful panel of tapestry conceived and made by the comrades of those fine men who fell for the honour of King and Country.

Only the finest designs and perfect weaving are contemplated, work that shall be equal to and rival the most beautiful tapestries of the past, and to attain this end several of our most distinguished artists, George Clausen, R.A., Charles Sims, R.A., and Frank Brangwyn, R.A., have most generously acceded to the invitation to be connected with the scheme. This speaks eloquently for its future, and any communication with reference to it will be welcomed by the author of this appeal.

GEORGE FRAMPTON.

90, Carlton Hill, Maida Vale,
N.W.8, February, 1918.

LEGAL INTELLIGENCE.

"ANTIQUE" PILLAR BOX AND THE POST OFFICE.

—At Brentford County Court last Friday the Postmaster-General sued Mr. A. W. Parkin, of Greenford Green, Middlesex, for the recovery of a pillar post box. It was stated that the box was an antique one. It was one of the first set up in the country, and the Records Committee of the General Post Office regarded it as a link with the history of the postal service. When the box was about to be displaced by a new one the defendant wished to buy it for £1. Correspondence followed, and the defendant removed the box and had it set up in his grounds. The postal authorities did not sanction the sale, but the defendant refused to give up the box. He said that it was the first set up in the village, with which his family had been connected for generations, and that the first letter posted in it was by a member of his family. On the correspondence he had considered that his offer had been accepted. The Judge held that the box must be given up, but, in view of the nature of the correspondence, he declined to allow the plaintiffs any costs.

The York Consistory Court have granted a faculty to the wardens of Stockton-on-Forest parish church to erect a carved oak rood and retable.

PROFESSIONAL AND TRADE SOCIETIES.

THE AMERICAN SOCIETY OF CIVIL ENGINEERS.—According to information received by *Engineering*, from New York, Professor A. N. Talbot, of the University of Illinois, has been elected president of the American Society of Civil Engineers. This society is the oldest and most influential of the four national engineering societies. It has a membership of 8,225, an annual budget of 150,000 dols., and assets of 600,000 dols. It was organised in 1852. Its headquarters are in the United Engineering Building, 39th Street, New York. Professor Talbot's election to the presidency is an exceptional honour for men in academic life. In the history of the society only two other college men have been presidents, these being Professor Swain, of Massachusetts Institute of Technology, and Professor Marks, of Leland Stanford. Professor Talbot is a graduate of the University of Illinois, class of 1881, and has been a member of the faculty of that institution since 1884. Since 1890 he has been head of the department of Municipal and Sanitary Engineering and in charge of theoretical and applied mechanics; he has directed important investigational work in engineering materials, reinforced concrete, railroad track, hydraulics, water works, and sewerage. As a consulting engineer, Professor Talbot has been connected with many large enterprises, such as the Galveston Causeway, the Chicago City Hall, and numerous waterworks and sewage purification problems. Professor Talbot is a past president of the Society for the Promotion of Engineering Education and a past-president of the American Society for Testing Materials. The University of Pennsylvania has conferred upon him the honorary degree of Doctor of Science, and the University of Michigan the honorary degree of Doctor of Engineering. He is the author of numerous books and publications, among which "The Railway Transition Spiral" has been extensively used as a text-book.

THE SURVEYORS' INSTITUTION.—In the Preliminary Examination, 1918, the following candidates have satisfied the examiners—viz.: Messrs. C. J. Brewin, Somerset Road, Knowle, Bristol; J. A. Bridgford, Manchester, G. C. R. Brooks, Canning Town, E. 16; D. G. Bush, Sanderstead, Surrey; C. E. Butler, Aylsford, Kent (head of list); F. M. H. Cave, Rugby; J. B. Chadwick, Darley Abbey, near Derby; H. J. Chibbett, Williton, Somerset; C. S. Corkill, Douglas, Isle of Man; T. J. Cundy, Linby, Notts; L. W. Dunn, Streatham Hill, S.W.2; K. E. Fresson, Wickford, Essex; C. W. Holland, West Kensington, W.14; F. E. Johnson, Ipswich; T. Josey, Sandown, Isle of Wight; J. G. Leeder, Swansea; E. H. Loudoun, London, S.W.6; J. L. Moore, Surveyor's Office, Paignton; W. R. Paice, New Wandsworth, S.W.; W. H. D. Ritohie, Portsmouth; G. C. Roberts, Manchester; J. A. M. Stannard, Biddendenham, near Bedford, Scottish candidate: Mr. J. R. Paterson, Oxtou, Birkenhead.

At the last meeting in Glasgow of the Incorporated Institute of British Decorators (Scottish Branch) Mr. John Scott was elected chairman and Mr. Joseph T. McArthur vice-chairman.

Sir Alfred Mond, in a written reply, states that a large portion of the County Hall is being prepared for official occupation. The work is being carried out in four sections. The first section, which is now practically ready, will accommodate a staff of 350, the second section 350, the third section from 500 to 600, and the fourth section from 500 to 600, making a total of from 1,700 to 1,900.

The Road Board have written to the Berkshire County Council, stating that they had been in communication with the Treasury with regard to applications for advances towards the cost of road or street improvements during the financial year 1918-19, and that it had been agreed that new grants or loans to a sum not exceeding £200,000 might be made out of the surplus at the credit of the Road Improvement Fund. The grants and loans would be confined mainly to expenditure on tar treatment of important roads, either in the shape of surface dressing, pitch grouting, or tar macadam. No grant would be made for the use of crude tar.

COMPETITIONS.

THE LOCAL GOVERNMENT BOARD AND R.I.B.A. HOUSING COMPETITIONS.—The first of these competitions, viz., that for the South Wales area, has been quickly decided. We give the results and a review of the competition in our first article this week. In the competition for the South-West area Professor Adhead, M.A., F.R.I.B.A., Sir Frank Wills, F.R.I.B.A., of Bristol, and Mr. James Crocker, F.R.I.B.A., of Exeter, were appointed assessors. Sets of designs have been received from 70 competitors. The designs submitted in the Manchester and Liverpool areas are on view at the School of Technology, Sackville Street, Manchester, from yesterday till to-morrow, between the hours of 10 a.m. and 5 p.m. We hear some 200 designs have been received from 160 competitors. The assessors are:—Mr. John B. Gass, F.R.I.B.A., Mr. P. S. Worthington, F.R.I.B.A., Mr. F. B. Junkerley, F.R.I.B.A., Mr. E. P. Hinde, A.R.I.B.A., and Mr. G. H. Grayson, F.R.I.B.A. The result was declared yesterday as follows:—A Class, 1st, H. L. North; 2nd, R. L. Collingwood. B. Class, 1st, Messrs. Briggs and Thornely, Royal Liver Building, Pierhead, Liverpool; no second. C Class, 1st, Messrs. Halliday and Patterson; 2nd, H. L. North. D Class, 1st, Messrs. Halliday and Patterson, 14, John Dalton Street, Manchester; 2nd, H. L. North. In the Home Counties area 685 designs were received, and the assessors met on Monday last. They are Messrs. Henry T. Hare, Sir Aston Webb, Ernest Newton, A.R.A., Paul Waterhouse, H. V. Lanchester, E. Guy Dawber, Professor S. D. Adhead, and Mr. Harry Redfern.

Our Office Table.

Sir Aston Webb, R.A., explained last Monday night before the Royal Geographical Society at Burlington House the London Society's map and proposals for the improvement of London. Maintaining the existing main roads, namely, the Oxford, Bath, Basingstoke, Portsmouth, Brighton, Dover, Colchester, Norwich, Cambridge, Great North, and Coventry Roads, new roads described as "the Western and Eastern Avenues" are proposed to relieve the Oxford road, on the one hand, and the Colchester road, on the other hand, and also to provide a way across London without going through the centre. It is further suggested that there should be a new Cambridge road to relieve the present road, at Tottenham and Edgware, and a new Chertsey road to relieve the Basingstoke road, together with byways to relieve Brentford, Kingston, Croydon, Bromley, and Eltham, and also smaller roads to link up the radiating roads on that side of London. As London is rapidly becoming encircled by a series of town-planning schemes it would be impossible, as Sir Aston Webb explained, to make these roads unless they were included in the schemes. The London Society's plan also contemplates new parks, parkways laid out on land unsuitable for building, waterside reservations, similar to those at Bournemouth, open spaces, and other improvements, comprising Harrow Weald and Stanmore Common, and Aldenham Reservoir, Addington Park, and Shirley Woods, Bexley Park, and a recreation ground for the industrial district between Woolwich and Dartford. Other suggestions include the electrification of all trains running into London, improved inter-communication between the main line stations, the embankment of the south side of the river, and a new bridge in the neighbourhood of St. Paul's to commemorate the war.

Mr. Bernard Stevenson, curator of the Laing Art Gallery, Newcastle, lectured at the Lit. and Phil., Newcastle, last week on "The Rise and Progress of the British School of Painting." Mr. Stevenson said that in the British school there were as many styles as there were painters, this no doubt being due to the fact that there was no connected following of any particular school. The rule of the foreign painter received its death-blow

from William Hogarth, whom he described as the Giotto of the English school, of which he was the founder. Passing on to the great period of English portraiture, the lecturer showed examples of the art of Reynolds, Gainsborough, and Romney, who, he said, raised portrait painting to a supreme height; and Gainsborough also laid the foundation of the British School of landscape painting. The art of Raeburn, Lawrence, Wilkie, Morland, and others was briefly described, and then the masterpieces of Turner. "The Fighting Temeraire," with Ruskin's description of its pathos, was instanced as an example of Turner's genius. Mr. Stevenson dealt also with the upheaval in British art introduced by the Pre-Raphaelites as represented by Ford Madox Brown, Millais, Holman Hunt, Rossetti, and Burne-Jones, and, in conclusion, passed to a consideration of the more recent developments of the British School.

Referring to the announcement made in the prefatory note to the Regulations and Syllabuses for Examinations in Science and Technology, 1915, of the Board of Education's intention to discontinue these examinations at a date to be subsequently determined, and to the announcements, made in Circulars 921 and 970, of the discontinuance of the lower general examinations after 1916 and of certain of the higher general examinations after 1917, the Board have now decided, after careful consideration, to discontinue the general examinations altogether after 1918. The higher general examinations will be held in that year, with the exceptions specified in Circular 970. The regulations and syllabuses which governed the examinations held in 1915 will remain in force for 1918, so far as they are still applicable. The conditions governing the award of scholarships, exhibitions, etc., in science in 1918 have been announced separately. The time tables of the examinations to be held in 1918 will be issued in due course.

The preparation of the 101st edition of Laxton's Builders' Price Book has naturally presented unusual difficulties in the matter of fixing the prices for 1918 of the mass of articles to be found in the book which have to be dealt with in consequence of the continued advance in the cost of raw materials. It is indeed with the greatest difficulty that builders can obtain many of the materials they require, and all prices are necessarily approximate. It should be noted that the prices given throughout the book are based upon the prime cost price of material and labour in November last. As these prices continue to advance (particularly those of timber goods), it is impossible to estimate what the actual cost will be even in the immediate future. There is no new feature added to the present edition of the book, but the list of specialities, which were given for the first time in the 1917 edition, has been considerably enlarged and improved. This now extends to over fifty closely printed pages. In all other respects the volume fully maintains its high reputation. It is published at four shillings by Kelly's Directories, Ltd.

At a meeting of the executive committee of the North Wales Heroes' Memorial, at Bangor, last Wednesday, Mr. R. J. Thomas (the hon. secretary) reported that the total amount promised to the fund now amounted to £61,000, of which £34,000 had been paid. Prior to the meeting of the executive the building committee had deliberated, and the following recommendation was unanimously agreed to:—"The following were appointed a sub-committee to consider the suggestions made by the principal as to the accommodation required by the various departments; to make suggestions as to the allocation of the necessary buildings upon the valuable sites; and to make any recommendations as to the procedure with regard to the appointment of an architect, with power to employ a draughtsman.

The City of London Library Committee has acquired for the print collection at the Guildhall Library a water-colour drawing by Thomas Girtin, showing the former front of the Guildhall in process of partial demolition in 1788, preparatory to Danie's restoration. The drawing shows, among other things, the late sixteenth-century sculptures of Law,

Learning, Discipline, Justice, Fortitude, and Temperance which formerly adorned the facade, and were afterwards allowed to be diverted to the provinces. In it is also included part of the erstwhile Guildhall Chapel, which occupied the present site of the Art Gallery.

The Canal Control Committee have now issued a Handbook on Canals which contains information relating to the controlled canals, lists of the towns served by them, and names and addresses of public carriers. The handbook contains a map showing the canals under the control of the Committee. The book has been issued for the information of Government Departments, manufacturers, traders, and all senders and receivers of traffic. The particulars contained in it will enable traders to obtain all information they desire as to the terms under which their commodities may be conveyed. The book should be in the hands of all manufacturers, Chambers of Commerce, and public authorities throughout the country, as it is very desirable in these times that as much traffic as possible should be sent by canal so as to relieve the railways. The handbook is published by His Majesty's Stationery Office, and can be purchased through any bookseller, or directly from the Stationery Office at Imperial House, Kingsway, London, W.C.2., and 37, Peter Street, Manchester, at the price of 6d.

One of the shortest radius arch dams for its height yet built is nearing completion on the Cimarron River, New Mexico. The Eagle's Nest dam is 140 ft. high, 30 ft. of which is below the river bed, and has a radius of 155 ft. It is 8 ft. wide at the top and 46 ft. at the base. It drains the Moreno Valley, in Colfax County, at a point where a red granite and porphyry dike, forming a prehistoric lake, has been cut through. The canon is therefore narrow—40 ft. at the base of the dam and 300 ft. at the crest. The project is to impound 80,000 acre-ft. in the remade lake, to irrigate 50,000 acres. Concrete is prepared in a central plant located at the down-stream toe, below a crushing and screening outfit. The spillway at the north end is in a granite saddle of the rock. It will have a length of 50 ft. and a depth below crest of 7 ft., giving, with 1 ft. freeboard, a capacity of 350 sec.-ft., which is in excess of the maximum flood recorded. The outlet tunnel through the rock at the south end has four inlets, at different elevations, leading into the gate-control shaft.

CHIPS.

More than £600,000 had been spent on the new Post Office tunnel in London at the end of last March.

The Morthyr Town Council has requested the architect to proceed with the preparation of plans for the proposed housing scheme, which a special meeting will consider.

The expenditure on the Woolwich housing scheme by the Commissioners of Works amounted in the year ended March 31, 1917, to £14,666 2s. 5d., making the total expenditure on the scheme to that date £821,326 19s. 4d.

Mr. H. W. Gladwell, who for upwards of twenty years was surveyor and inspector of nuisances to the Walton-on-Naze U.D.C., has been appointed surveyor to the East Central Division of Shropshire, under the county council of Salop.

The French Academy of Fine Arts has elected Mr. J. J. Shannon, the American painter, to be an Associate member. Mr. Simpson, the American architect, and Signor Genito, the Italian sculptor, were elected corresponding members.

The Manchester Town Hall Committee have recommended Mr. J. Bertram Lloyd Leek, acting city engineer, to be city engineer; Mr. J. Luke, acting city surveyor, to be city surveyor; and Mr. F. Ravenscroft, assistant steward, to be town hall steward.

The Minister of Munitions points out that in virtue of the Order made by him under the Defence of the Realm Regulations on December 20, 1916, no person shall, until further notice, sell or supply any crane, whether steam, electric, hydraulic, or hand driven, except under and in accordance with the terms of a permit issued under the authority of the Minister of Munitions.

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*Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender: it adds to the value of the information.

CORK.—For making a new road from Boreenmanna Road to Ballinlough Road, for the Cork Rural District Council:—

D. Hegarty (accepted) £93 15 0

FRASERBURGH.—For completing the surface of the Faithlie Jetty, including macadamising, drains, and erection of lampposts and wells, for the harbour board:—L. F. Cowie, £265, accepted subject to measurements being verified. Engineer's estimate, £280.

LONDON, S.E.—For roof repairs and other works at the Newington Institution, Westmoreland Road, S.E., for the guardians of Southwark Union. A. Snell, F.R.I.B.A., 9, Bentinck Street, Manchester Square, W.1. architect:—

Whiter, J. E., 89, Newington
Butts, S.E. £1,434 0 0
Barton and Co., 43, Chancery
Lane, W.C. 1,391 0 0
Marland and Son, Walworth, ... 1,270 10 0
Inas, A. H., Devonshire Square,
E.C. 978 0 0
King, W., and Son, 3, Vauxhall
Bridge Road 890 0 0

MANCHESTER.—For alterations at the Child Welfare Centre, Hyde Road, for the sanitary committee:—R. Chorlton, Manchester (accepted).

NORTHAMPTON.—For repairing 24 chairs in the committee room, for the town council:—

S. T. Shepherd, Wellingborough Road, 35s. each (recommended for acceptance).

WALLSEND.—For erection of new offices, for the Castner Kellner Co.:—

Bailey, Ltd., Newcastle (accepted).

WORTHING.—For borehole to be sunk 100 feet to 150 feet below the well at the waterworks, for the town council:—

Duke and Ockenden, Littlehampton (accepted per schedule).

YORK.—For the widening, deepening, grading, and the cutting of connections across certain bends on "The Beck" and Blackfoss Beck, between Hagg Bridge (Storwood) and Whinberry Hall (Wilberfoss), in the East Riding of the County of York, for the Wilberfoss and Thornton Drainage Board. Messrs. Fairbank and Son, M.I.C.E., Lendal Chambers, York, engineers:—

Parker and Sharp, Peasholme
Green, York (accepted) £1,931 10 4
Engineer's estimate, £1,944 4s.

LIST OF TENDERS OPEN.**COMPETITIONS.**

Feb. 23.—Preliminary designs for new public school buildings, with chapel, assembly halls, library, science and art rooms, swimming bath, etc., at Bolton, for the Trustees of the Bolton School and Lord Leverhulme. Premiums, two hundred guineas, one hundred and fifty guineas, and one hundred guineas. Assessors, Mr John Bradley Gass, F.R.I.B.A., and Mr. Arthur John Hope, Lic.R.I.B.A. Conditions obtainable from Messrs. Bradshaw, Gass, and Hope, 19, Silverwell Street, Bolton, on and after February 23. Deposit £1 1s., returnable on receipt of plans.

BUILDINGS.

Feb. 21.—Foundations in connection with boiler-house extensions at the Feeder Road Works, Bristol.—For the Electrical Committee.—H. F. Proctor, M.I.C.E., M.I.E.E., City Engineer and General Manager, Electricity Department, The Exchange, Corn Street, Bristol.

ENGINEERING.

March 30.—The Acting British Consul at Santiago reports that a decree has been issued calling for tenders for the improvement of the port of Antofagasta (Chile). By the terms of this decree the amount to be expended on this work must not exceed £1,700,000. Details may be obtained from the Port Commission Offices in Santiago, and copies are expected to be received shortly at the offices of the Chilean Legation in London, 22, Grosvenor Square, W.1. Tenders will be received up to 3 p.m. on March 30 by the Minister of Finance, Santiago.

FURNITURE.

Feb. 15.—The Commissioners of H.M. Works invite tenders for the supply of (a) folding tables; (b) various tables. Forms of tender and all particulars on application to the Controller of Supplies, H.M. Office of Works, King Charles Street, Westminster, S.W.1. Tenders before 11 a.m. on February 15, to the Secretary, H.M. Office of Works, Storey's Gate, London, S.W.1.

Feb. 15.—The Commissioners of H.M. Works invite tenders for the supply of open bookcases, etc., during six months from date of acceptance of tender. Forms of tender and all particulars may be obtained on application to the Controller of Supplies, H.M. Office of Works, King Charles Street, Westminster, S.W.1. Tenders must be delivered before 11 a.m. on February 15, to the Secretary, H.M. Office of Works, Storey's Gate, London, S.W.1.

PAINTING.

Feb. 16.—Painting and distemping, etc., of the interior, downstairs, of the Old Shildon Workmen's Club.—The Secretary, Workmen's Club, Main Street, Shildon.

SANITARY.

Feb. 16-March 16.—Construction of a sewer and manholes in Roscoe Road, Irlam (Lancs.).—For the Irlam Urban District Council.—Particulars on application before February 16 to R. H. Winterbottom, Council Offices, Irlam. Tenders to J. Cooke, Clerk, Council Offices, Irlam.

The death has occurred at Maidenhead of Mr. C. A. S. Vardy, J.P., who was an architect and surveyor, and has been an Associate of the Surveyors' Institution since 1904.

The next ordinary general meeting of the Surveyors' Institution will be held at Great George Street on February 25, when a paper will be read by Captain (late Professor) David Bowen, R.E., a Fellow, on "The Effect of Taxation on the Development of Mineral Estates."

Major William Robert Gregory, M.C., R.F.C., of Coole Park, co. Galway, killed on January 23, was the only son of the late Right Hon. Sir William Gregory. He was educated at Harrow and New College, Oxford, and afterwards studied painting in Paris under Blanche. He exhibited at the New English and other galleries paintings of West Irish landscape. The Abbey Theatre in its earlier days owed much to the beautiful scenes painted and designed by him, especially for Synge's "Deirdre of the Sorrows," Mr. Yeats's "Shadowy Waters," and his mother's (Lady Gregory) "The Image."

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THE BUILDING NEWS

AND ENGINEERING JOURNAL.

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OUR ILLUSTRATIONS.

Millbank Estate, Dundonald Street, Westminster, S.W. London County Council's Better Housing for the Working Classes. Two views, a block

Strand, W.C.2.

plan of the lay-out of the property. Mr. W. E. Raley, F.R.I.B.A., Superintending Architect, London County Council, Architect.
Selected design, National University of Ireland new building, Upper Mount Street, Dublin. Detail of entrance front. Messrs. W. G. Clayton and W. Sedgwick Keatinge, M.M.R.I.A.I., Architects.
Housing Scheme, Highgate, for the Bolton-on-Dearne Urban District Council, Rotherham, Yorkshire. Plans, elevations, and sections of semi-detached dwellings for miners. Mr. John W. Wilson, Surveyor to the Council, Architect.

Currente Calamo.

In building, and also in repairing houses, various contractors and sub-contractors have to be employed upon the same premises. There are, therefore, often numerous different workmen about the place, and it becomes practically impossible to prevent some carelessness, or what the law calls negligence, by one or the other. When an accident happens to a stranger rightly present upon such premises it may give rise to some complex legal questions as to which of the contractors, if any, all working together, is liable in damages. In the recent curious case of "Kimber v. Gas Light and Coke Company" we have a good example of what may happen any day. The action was brought by a lady who, with an order to view, had gone to look over a house, the upper part of which, when converted into a maisonette, she thought of taking. The agreed facts showed that the owners of the place had employed builders under a contract to do repairs as agreed by them with the tenant to whom they were letting the premises on lease. They also instructed them to get the defendant company to do the gas work required. Meanwhile the tenant consulted an agent to let the flats, who gave an order to view to the plaintiff. She went with this to the house. It appeared that the defendants, as they had a right to do, had taken up a board on the badly-lighted landing, and their men had left an open hole unfenced. Their workmen let the plaintiff in, and sent her up to see the rooms without any warning. She put her foot in the hole, and was seriously injured. At the trial the jury found there was no negligence in not protecting the hole, but that the defendants were negligent in not warning the plaintiff of its existence. The judge held that the defendants were the proper persons to be sued as the immediate employers of the workmen whose negligence had caused the accident. Then he ruled that, having created a concealed danger, they were negligent in not warning the plaintiff, who thus had judgment on the verdict, with £275 damages. On appeal this was fully confirmed by the three Lords Justices. The decision is a good precedent as to the actual contractors who are liable in these jobs where

accidents happen. It is also clear as to the duty of warning any person rightly on the premises as to any concealed danger known to such contractors.

The seventh annual exhibition of the National Portrait Society at the Grosvenor Gallery totals 280 exhibits, and is by no means an uninteresting one. Some of the portraits, of course, have been seen before, and there are others which, as far as any interest in the good people they represent, or any great merit of the work itself goes, might not have been missed if absent; but there are quite enough to repay inspection by the general public who have the natural desire to see the portraits of celebrities they have not been able to see elsewhere, or to make the acquaintance of less famous people amongst whom some of their friends will be glad to be recognised, even if they fail to discover characteristics of the sitter ignored by the painter, as, for instance, in Sir John Lavery's portrait of Mrs. Patrick Ford (9), in which her dress has more attention than her face. Sir John is perhaps more successful with Gen. Sir Henry Rawlinson (29) and Mrs. Detmar Blow (16). Mr. Ambrose McEvoy, who sends four contributions, is least fortunate with the Lady Diana Manners (1), but more so with the Countess of Wemyss (31). Mr. William Strang, A.R.A., has scored with Mr. King Farlow (2) and his "Wife of the Picador" (24), in which her attire is not unnaturally emphasised. The best of Mr. Alvaro Guevara's four, we think, is that of Mr. Adam Slade (40). One of the best in the exhibition is William Nicholson's portrait of Mr. Walter Greaves (34). Of the five sent by Mr. Glynn Philpot, A.R.A., we like the Marchioness of Bath (10) and the Lady Mary Thynne (95). Mr. R. G. Eves has a long list of seven subjects, and is at his best with the Viscountess Curzon (35) and Lady Mainwaring (63). Two topical subjects, "Rationed" (66), by Mr. M. G. Barker, and "All Clear" (72), by Mr. G. Ingersoll, have timely attractions. There is little sculpture worth notice; there are three bronze masks (47, 48 and 49), by Jacob Epstein, and a small statuette of Princess Patricia of Connaught, and a bronze of Lieut. Melville, by Clare Sheridan.

The thirty-sixth annual exhibition of the Royal Society of Painter-Etchers and Engravers includes some excellent work, and not a few examples of special interest to our own readers, notably a very good interior of the "Loggia Dei Lanzi, Florence" (23), by Mr. Hadley Fitton; "The Cloisters, Wells" (42), by Gertrude Hares (Mrs. A. K. Morgan); "St. Lawrence, Nürnberg" (53), by Mr. Arthur J. Turrell; "St. Ouen" (85), by Captain W. H. Ansell; "Puerta del Sol, Toledo" (88), by Mr. Charles O. Murray; and "A Street in Milan" (111), by Mr. Albany E. Howarth. Sir Frank Short, R.A., the President, shows a mezzotint of the "Rt. Hon. Arthur Cohen, K.C." (39), after J. S. Sargent, R.A., and an aquatint, "A Last Glean in the Cotswolds" (41). Mr. W. L. Wyllie, R.A., has five exhibits, "A Swept Channel in the North Sea" (95) perhaps the most interesting. Six by the late Sir Charles Holroyd, three by the late Wilfred Ball, and two by the late William Hole, R.S.A., make up the contributions of three eminent deceased members, "Pro Nobis," by the last-mentioned artist, being one of the best exhibits of the year. Mr. William Walcot's five subjects are good examples of his always welcome work, "The Sea" (177) perhaps the most striking. Second Lieutenant Bentley's six dry-points (86, 87, 108, 113, 127, and 128) of scenes at the western front are well rendered and sure to attract attention. Many others well worth mention if space permitted make up a total of 200 subjects, and all are more or less good work.

At a meeting of the members of the Manchester City Council Art Gallery Committee last Wednesday in the Lord Mayor's private rooms at the Town Hall to acknowledge the city's appreciation of the oil paintings and water-colour drawings given to the Corporation under the will of the late Mr. James Blair, Councillor Todd (chairman of the committee) said between ninety and a hundred thousand persons went to see the pictures. He emphasised once more the necessity of providing a fitting home for the city's art treasures. To his mind there was only one place in the city—the site of the old Infirmary in Piccadilly—fit for a fine palace of art worthy of the city and the rich gifts it had received and would receive. The Lord Mayor said that Manchester

was unlike some of the cities of old, where merchant princes lavished on their cities treasures of art in the shape of pictures or buildings. In Florence, Venice, and other cities there were lasting monuments of the wisdom and taste and generosity of the men who gave them. He was no believer in the idea that Manchester men were engrossed in money-making, but when one considered the wealth of the city one must feel that the object for which that wealth was made ought to reveal itself in better forms than those one usually saw. It ought to be the aim of every leading citizen of Manchester to do something to leave his name in some way impressed on the city. As to the city's art treasures, he joined Mr. Todd in urging the necessity of providing a proper home for them. Going without such a home was like storing jewels in a coal cellar.

The thirty-fifth annual report of the Council of the Liberty and Property Defence League is devoted to a statement on "The Menace of Democracy." The principles and theories underlying the acts of the Bolsheviks are held to be identical with those that have gained prominence in this country within the period of the war; and the organised effort that is being made to establish so-called democratic control of not only purely national and Imperial affairs, but of all social, financial, and industrial relations is held to be pregnant with disaster to all classes of the community. The Council submit that "Democracy" as defined by its advocates is based upon a fundamental fallacy, and that as a logical and practical theory of society it is impossible, the Labour unions themselves, which are purely oligarchic bodies, presenting the best evidence of this. With respect to "the conscription of wealth," the League sees in this proposal an attempt to satisfy the prejudice of the Labour Party against the capitalist class, and contends that the threat of confiscation of capital will discourage investment in those industries out of the increased production of which the war bill could be paid, and that it will have a most detrimental effect upon property of all kinds. Discussing the growth of bureaucracy, the Council point to the danger of our present countless army of officials seeking to establish a vested interest, and urge that with the demobilisation of the military forces after the war there must be a demobilisation of the bureaucracy. "The country must keep before it the great fact that we are at war for freedom, and that after having smashed Prussian tyranny the nation does not intend to settle down to bureaucratic despotism at home." The League propounds a scheme for the organisation of property owners and traders by which "the menace of democracy" may be resisted.

HOUSING SCHEME, HIGHGATE, IN THE BOLTON-ON-DEARNE URBAN DISTRICT.

(WITH ILLUSTRATIONS.)

By JOHN W. WILSON, Surveyor to the Urban District Council.

The site of these houses is an old building estate, where the lay-out was already settled. The scheme shows sixteen houses per acre, but the council owned some further land, previously used for allotments, adjoining the site, so that with this extra parcel added the houses are just over five per acre.

The Highgate scheme was actually an experiment in order to ascertain the type of house most suitable for the miners' occupation, and I evolved from the class of houses existing in the district four types improved and adapted to the following accommodation*:—(1) Each house to be self-contained; (2) only thing in common being access from road; (3) each house has a w.c., bath with hot and cold water laid on, also same supply to sinks; (4) each house provided with three private bedrooms, two of which have fireplaces; (5) hot-water back boiler fixed in living room, in order to prevent scullery being used as a living room; (6) bedrooms, unless attics, at least 8 ft. 6 ins. in height over all floor area, and every room ventilated; (7) living rooms, where wife and children spend most of their time, have wood floors.

I might at once point out that items 4 and 5 are no hardship here, because miners obtain one ton of coal per month at about 4s. per ton, delivered. On item No. 6 I might also say, it is a good provision, because any lessening of cubic capacity where miners are to sleep is insanitary, when it is remembered that their work, when carried on under best regulations makes them very susceptible to cold draughts, and as a class they keep big fires night and day, and are very averse to open windows or ventilators. One further remark as to item No. 1, and it is, I might point out, the most satisfactory to the tenants: their little garden and court-yards are their own, as opposed to the common yards or courts that prevail in the district in many cases.

This scheme was completed in 1913, and our subsequent experience might be of service to housing scheme promoters in colliery districts, but at the same time one cannot be dogmatic, as local conditions vary somewhat. For instance, not all mining districts are so enthusiastic about gardening, but geographically we are midway between Doncaster (the new mining centre) and Barnsley (the old mining centre), about 8 miles from each, and practically no railway facilities easily accessible to either; we therefore did not demur as to giving each house its garden adjoining the house. The question of cheap coal, again the outcome of local custom, gave us five and in no case fewer than four fireplaces per house; this also helped our endeavour to make the tenants use the living-room by fixing the boiler in this room instead of keeping the living-room unused and practically treating it as a show place while all the family live in the scullery, which usually is the smallest of the general rooms.

In conclusion, may I put a good word in for the bath? as it appears to be quite a bogey where working men's houses are proposed. One of the first questions put by all deputations when viewing such houses is, What about the baths? Do the

tenants make coal-places or pantries of them or worse? After five years' experience we can say that the baths are used properly, but it must be remembered that hot and cold water is laid on to them; the baths are of porcelain enamelled iron, the best we could obtain of the kind; and, moreover, there is a fireplace either in the same room or within sight, except in the largest eight houses. This nearness of the fire, I believe, has been a large factor in inducing miners to use them; besides which advantages, the living-rooms also are accessible while the scullery is being used as a bathroom. Theoretically the scullery, we thought, should not be used as a bathroom, but the testimony of the people who use them is in favour of this arrangement.

I think it may be useful to give the cubical contents of each type, although after the war conditions will at their best not be so favourable for building as when these houses were erected. Nevertheless I append the actual price per cubic foot of the average of each type:

Type.	Cubic contents.	d.
1	19,142	at 3 2/5
2	12,895	at 3 4/5
3	12,783	at 3 8/11
3a	12,186	at 3 4/5

All repairs and maintenance are charged against it; in fact, everything is carried on as if it was a private property, and they are self-supporting.

The accompanying sheets illustrate three of the four types of houses referred to.

JOHN WILSON.

LOCAL GOVERNMENT BOARD AND R.I.B.A. COTTAGE COMPETITION.

MIDLAND AREA.

The awards in connection with the Midland Area of the above competition have now been announced, and the designs exhibited in Birmingham. Two hundred and forty-eight drawings were submitted in this section from 107 competitors.

One of the first points that impress the observer—and it applies to the great majority of the designs submitted—is the extraordinary and lavish extent of the frontage required. A fair average, allowing for a reasonable amount of space between the blocks, would exceed 30 ft. per house, one half the number of which houses contain only a living room and scullery and the usual offices. Considering the fact that generally speaking the £40 to £50 annual value semi-detached suburban house does not occupy more than this amount of frontage, and in many instances rather less, it is certainly excessively extravagant for a cottage of the size mentioned. Even allowing for the reduced cost of roadmaking, if the 16 ft. carriage-way and wide grass verge type of road is constructed, the extra cost of sewerage, lighting, maintenance, etc., involved cannot but be a serious one.

The published conditions of the competition are no doubt responsible for this to a great extent, only one dimension of frontage being given, 18 ft. being described as a "narrow frontage," the frontage of the other houses being left to the discretion of the competitor. The result has been that the great majority have taken carte blanche in the matter and rushed to the other extreme.

As affecting rural cottages this question of frontage is probably not a very serious matter, but with regard to the housing problem in large towns and industrial districts it is a very important one, and would considerably affect the rental at which the houses could be let.

Sir Edward Letchworth, aged 84, of Cornwall Gardens, Kensington, for over a quarter of a century Grand Secretary of the United Grand Lodge of English Freemasons, has left net personalty £13,997; total, £15,553.

* This takes the form of a single street having ten blocks of semi-detached dwellings on one side of it and six on the other. At the end of this street runs a cross thoroughfare with four more blocks, a couple of similar blocks being in Highgate Lane.

What we have to replace is the type of house previously erected by the speculative builder on a frontage of about 15 ft. To ask for more than double the frontage for a house of less accommodation will not carry us very far on the way to a solution of the housing problem.

A further point in connection with the question of excessive frontage is that in a block of six houses some approach to the rear in the case of the middle houses, other than by a long party passage across the back of the intervening cottages with all its attendant inconveniences, is desirable.

It is certainly questionable whether blocks of more than four houses should be built, as this unit best lends itself to giving absolute privacy to the occupants of each cottage, and it is an undoubted fact that this matter of privacy is a very real one to the average working man.

With regard to the designs generally and taking as a keynote simplicity in roof construction, grouping of chimney stacks, absence of unnecessary ornament, and economical planning, all having strict regard to easy repetition in large quantities, most of the competitors will be found sadly lacking in one or other of these respects.

Suggestions were invited for new methods of construction and material, but only a very cursory attempt has been made to grapple with the problem from this point of view. There is no doubt that ample scope exists for effort in the direction of standardised fittings and materials produced in large quantities to be erected with a minimum of skilled labour on the actual site itself. As an instance, there seems to be no reason why a door with its frame, architraves, hinges and lock complete should not be delivered and fixed in position without the aid of any other tool than a screwdriver.

Another important point which also applies to the majority of the designs is that in adjoining houses the sculleries or bathrooms have been placed at the back and front alternately, competitors and assessors apparently overlooking the fact that such an arrangement will involve a soil drain along the whole frontage, with its inspection chamber, vent pipes, etc.—a quite unnecessary expense.

The awards have been made as follows:—

In Class A.—Living room, scullery, and three bedrooms.—The first prize of £100 is secured by Stockdale, Harrison and Sons, A.R.I.B.A., Leicester, for a well-drawn design, the cubic contents of which have been kept low at the expense of simplicity of roof construction. The bedroom floor is lighted by a series of Dormer windows, a large flat being necessary over the two end houses to keep the same ridge level. Six winders are shown to the stairs in one type, which is certainly objectionable. The second prize (£50) in this class goes to N. B. Robertson, A.R.I.B.A., Leicester, whose plan contains several good points, but the lighting of the bedrooms is insufficient, about 9 ft. super. of glass being expected to light a room 180 ft. super. Sculleries are placed at the back and front alternately, and the positions of the bath and w.c.s are not good. Arthur McKewan, A.R.I.B.A., Crouch, Butler, and Savage, F.F.R.I.B.A., and Edward Garratt and H. W. Simister, all of Birmingham, are highly commended, the latter submitting a very simple and pleasing design, with well-grouped chimneys, and a commendable attempt to give some privacy to the bath.

In Class B.—Having the same accommodation as Class A, but with the addition of a parlour. The first prize of £100 has again been carried off by Stockdale, Harrison and Sons, with a very similar design to the one submitted by them in Class A. The planning, however, is not as good, and there are many very objectionable features, the bathroom being arranged in the centre of one house, lighted from a Dormer high up in the roof. The second prize (£50) is taken by F. W. C. Gregory, Nottingham, whose design shows projecting out-offices and an expensive type of roof. The stairs are

arranged between two chimneys, with the coal place between. The cubic contents are also excessive. Frank H. Bromhead, Hereford, C. F. Simms, Stoke-on-Trent, and H. B. Robertson, A.R.I.B.A., Leicester, are highly commended.

In Class C.—Being the same as Class B, but with only two bedrooms. F. W. C. Gregory, Nottingham, secures the first prize (£100), and the same remarks applying to his design in Class B may be repeated in this case. Stockdale, Harrison and Sons are awarded the second prize (£50). In this design the flue from a bedroom fireplace is shown gathered over 15 ft., at an angle of about 30 deg., and a room 17 ft. long is expected to be lighted by a window at the end under a verandah.

In Class D, which is a variation of the preceding types, Cleland and Hayward, Wolverhampton, carry off the first prize of £50 with a simple one-story design of the week-end bungalow type, Arthur McKewan, A.R.I.B.A., Birmingham, gaining the second prize (£30), Stockdale, Harrison and Sons, and Cleland and Hayward being highly commended.

THE MANCHESTER AND LIVERPOOL AREAS.

In this area cottage competition—Liverpool and Manchester, which also includes the counties of Westmoreland, Lancashire, Cheshire, Flintshire, Derbyshire, Carnarvonshire, Anglesea, Merionethshire, and Montgomeryshire—the assessors were Mr. J. B. Gass (President Manchester Society of Architects), Mr. E. P. Hinde (President Liverpool Architectural Society), Mr. P. S. Worthington and Mr. F. B. Dunkerly, Manchester, and Mr. G. E. Grayson, Liverpool. The consultants were Deaconess Frances, living and working in crowded and industrial area, who brought with her two wives of two classes of working men; and Mr. W. Boardley, builder, Manchester.

We all rejoice at the elimination of the back-yard, privy, and ashpit, so long associated with the workman's dwelling, never, it is to be hoped, to return, and with them that abomination the back passage. Filthy they always were—the last named never fit to walk along—and the flies will go with them.

In time, no doubt, the w.c. and bath will be generally placed on the chamber floor. The bathroom-scullery is a distressing compromise. Delicacy demands that a bather should not be required before taking a bath to see to it that, as in the case of the first premiated design, no one is in the larder, that the door to the living room is secure, and that the back-door, used at all times night and day, is bolted; above all, "not to forget to draw the blind" and leave no "peep-hole" for the inquisitive passer-by. In addition, to remove the piles of crockery, etc., left on the lid. To avoid as far as possible that scullery utensils shall not be affected by the clothes or the reverse. No wonder the bath in the North has become the receptacle for coals and potatoes, and bathing neglected.

It might serve some useful purpose to enumerate a few of the unwritten laws in regard to cottages. That entrance doors should be as far apart as possible—a gossiping neighbour is a nuisance to most women. Advantage of cross ventilation in rooms not to be forgotten. Coal-place to be accessible under cover. That the windows to scullery and living room should overlook the playing ground for the children. Fewer outside steps to clean the better. No plaster in scullery. In houses of this class rooms are passage rooms—traffic should not pass in front of the kitchen range. Doors in rooms should be reduced to a minimum—in some of the premiated designs there are three. Steam from clothes-washing should not be allowed to enter living-rooms. It seems difficult to avoid this—most of the premiated designs could make no attempt to solve this problem. Stairs should be in

short flights, without winders, and well lighted and provided with handrails. Some of the accepted designs show staircases 2 ft. 6 ins. wide; with handrail and plaster taken off these staircases, which are all too narrow. The chair usually occupied by the husband in the evening is the one between the window and the kitchen range, the light for reading falling over the right or left shoulder, the chair having its back to the light. The wife's chair is usually opposite this, the table near them, but towards the centre of the room. Upon the table they put their requisites. It is important that this side of the room should not be used as the passage side. The window-sill should be 4 ft. to 4 ft. 6 ins. above the floor; the higher the sill the warmer the room; the higher the source of the light the better for reading and the reader's eyes. Windows are made to admit light into a room, not to look out of, despite the assertion that the reverse is the case. If window-sills are too low eye-strain is the result. Cottagers open their doors for ventilation, not their windows; they say there is a draught from the window, but not from a wide-open door. It is a pity the half-door has been abandoned in England. Open wood gates are inserted in grooves in some of the doors in the North of England and the door left open all day. Why the light above the hood to the door should not be left open all night it is difficult to understand.

The conditions stated that in all cases back additions were to be avoided or minimised as much as possible. This condition has generally been ignored. Those who have avoided projections have produced flat rows of uninteresting cottages. The most successful competitors have broken up their plans as much as those of Letchworth, and in many cases much more so. Cottages without projections and in twos and threes may be redeemed by picturesque grouping, and block plans might have been allowed in order to express this.

As regards positions of furniture, etc., each door absorbs about 5 ft. super. of floor space, and when left open, which they usually are, force the traffic towards the centre of the room, adding additional loss of floor space. The competitors in most cases show three doors each to the living-room and the scullery—in the latter case a serious deduction of floor space. It is difficult to avoid this in cases where rooms are to be used as passages.

It was suggested that, wherever possible, materials of the locality should be used. One cannot blame competitors if they did not seriously ponder over this demand. Nine counties are included in the area. The competitors specify patent building material, the negation of craftsmen's material, and a competitor suggests ferro-concrete.

In the supplementary particulars, in response to questions by competitors, it was stated that bedrooms may be partly in the roofs. In Class B Messrs. Briggs and Thornely, and in Class C Messrs. Halliday and Patterson, also Mr. North, enclose the whole of the chamber floor in the roof of the former, an adaptation of the Mansard, the latter an adaptation of the Old English cottages built of "crucks," a good example of which remains at Scrivelsby, Lincolnshire, but in which the whole of the roof comes down to the ground, enclosing the two stories, the tie beam providing the support for the joists of the upper floor. It is thought that more might be made of this method.

It was stated that alternative plans would be allowed. The following notice was pinned up in connection with Classes "A" and "B." "Some designs of con-

siderable merit in this class have been disqualified, the authors having violated the conditions by sending in complete alternative designs."

THE PREMIATED DESIGNS.

Class A.—Living-room, scullery, etc., and three bedrooms.

First Premium.—Mr. H. L. North, Llanfairfechan is probably the only competitor who has mastered the old-world traditional cottage manner suitable for the countryside, but by some thought unsuitable for urban districts—fortunately, not by all. The several cottages are cleverly grouped in one block, the plans varying. The end cottages are two rooms deep, the centre being occupied by the wide frontage cottages one room deep, thereby breaking the frontage. The entrance doorways are a respectable distance apart. The living rooms are well planned, but as with all competitors the distance to carry pans from the kitchen-range to the scullery-sink is too great. Some of the pans are filled with boiling vegetables, and are very heavy and dangerous; the distance is about 15 ft. In some of the old cottages the sink was placed in the living-room next to range, a distance of about 3 ft. To say that sinks are smelly things is to encourage neglect. The scullery, which is already small, has three doors, which will considerably reduce the working floor area. The bath is in the scullery. Mr. North has almost a distressing tendency to make his doorways and staircases too narrow; 2 ft. 6 ins. between the brickwork with the casings and plaster and handrail, would they not be too narrow? Carrying trays and buckets through narrow doorways tend to accidents. The floors, fortunately, are all on one level, no steps, in doorways. All competitors obey this precept. The wide frontage cottage has an excellent through ventilated living-room 17 ft. long. All Mr. North's plans show excellent arrangement in the coal store, larder, and the w.c., which is entered from the porch. Windows are provided to each. Pedestals should always be placed on the outside wall, which is only done in some cases, not in all. The elevations are in every way scholarly and admirable.

2ND PREMIATED DESIGN.

Mr. R. L. Collingwood, Rochdale, Lancashire.—What has been said in regard to the first premiated designs apply to these, except that the elevations are not so scholarly. These plans show excellent planning in every way, and are a very good second. The scullery has one door opening into it, the door from the living-room opening into that room, which would suffer to that extent. Which room should suffer is debatable. The chamber floors in these designs are excellent.

Class B.—Living-room, parlour, scullery, etc., and three bedrooms.

1ST PREMIATED DESIGN.

Messrs. Briggs and Thornely.—The planning of these cottages, wide frontage cottage in the centre one room deep, and cottages two rooms deep, is probably the best submitted. All the rooms are admirably ventilated. The rooms to the wide frontage cottage have (every one) natural cross ventilation, and could not be better. The distance from kitchen range to scullery sink in the end cottages not good, but in the centre cottage is almost perfect. The bath is where it should be, on the chamber floor. The chamber floor in the end cottages is good, in the centre cottage excellent. The wash-boiler is better placed than in some of the premiated designs; there is less chance of the steam entering the living-room. The elevations have a stock size look about them which may be intentional. Every

effort is made to reduce the cost. The chamber floor is placed within a timber roof of Mansard type.

No second premium awarded.

Class C.—Living-room, parlour, scullery, etc., and two bedrooms.

1ST PREMIATED DESIGN.

Messrs. Halliday and Paterson.—Excellent living-room. Scullery sink too far away from kitchen range. In other respects as good as the other premiated designs. The elevations are excellent and suitable for a "zone" between that of Mr. North and that of Messrs. Briggs and Thornely. The arrangements of all premiated designs are similar. The chamber floor is entirely within, a timber roof carried well over the ground-floor walls increasing the span and permitting the 5 ft. height to be provided. This arrangement is worthy of much consideration, as it might tend to cheapen cottage building, but add materially to picturesqueness.

2ND PREMIATED DESIGN.

Mr. H. L. North, Llanfairfechan.—These living-rooms, with windows in opposite wall, have a wholesome look about them, and there can be little doubt that we should have more of them. The scullery sinks are as far away from kitchen range as they very well could be. The details of the plans are all similar to Mr. North's other plans.

Class D.—Variations of either A. B. or C, planned entirely or mainly on one floor.

1ST PREMIATED DESIGN.

Messrs. Halliday, Paterson, and Agate.—The accommodation is entirely provided on one floor, and the planning very good. There is, however, a lack of opportunity for cross natural ventilation. Don't like a larder next to a bathroom. Twenty feet is too far to ask anyone to carry a pan full of boiling water. To those who like ferro-concrete, this scheme (elevation and plan) will be welcome; those who think ferro-concrete an unsympathetic material will have a reverse impression.

2ND PREMIATED DESIGN.

Mr. H. L. North.—Excellent planning full of Mr. North's adaptable methods. One bedroom only on ground floor, others on a second story. Elevations up to Mr. North's standard. Real cottages.

THE SOUTH-WESTERN AREA.

The designs submitted in the South-West area for the National Housing Cottage Competition are now on view at the Albert Museum, Exeter.

Little fault will be found with the award in Class A. The successful competitors are Messrs. Thornely and Rooke, of Plymouth, with design No. 26. Certainly all essential points have been well studied, such as larders off the living room—not off the scullery; coals, and w.c., approached from a small covered lobby open to the air, and a separate bathroom. The lack of ventilation to the stairs in the 18-ft. houses is certainly a blemish, but a very general one. The elevations are satisfactory, being quiet and well-proportioned, neither too pretentious nor too picturesque, with rough cast ground floor and vertical slating in the upper story.

No. 63, by Mr. W. Heathman, of Bristol, is the second premiated design. It is well arranged generally, but the bath in the scullery and the cranked communication between scullery and living-room, are drawbacks. The elevations are good, but rather too irregular in generation.

Mr. T. Bradford Ball, of Weston-super-Mare, is awarded an hon. mention for design No. 37. The plans are well

presented, and form a nicely balanced little irregular block—distinctly a point where building in a hilly country is contemplated. The coals, however, are badly placed for taking in as regards the single-fronted house, and the table-top bath in the scullery is inferior to the separate scheme.

No. 38 is a magnificently presented design, more resembling an important railway terminus.

No. 17, by Messrs. James and Denning, is an attractive scheme with good living-rooms, but the coals and w.c. have to be approached from outside. Other designs include No. 23 by Mr. A. W. Greenam, No. 25 by Mr. E. Coath Adams, who courageously throws over reduction of cube in all his designs, and submits well-considered little plans and elevations, to which the draughtsmanship does not do full justice: Mr. A. S. Parker, Mr. Sidney Greenslade, Mr. H. W. Horsley, and Major Oswald Milne. The bay window and half-timber work are conspicuously absent in the best designs.

In the B Class Messrs. Thornely and Rooke are again deservedly first, the same care being observed in their work and the same quiet and restful treatment of elevations.

Mr. W. Heathman, of Bristol, is second with No. 63, which makes a simple and well-considered group, but how could one work in such a scullery? In several instances, however, tenements have been added in spite of the conditions; and others have put their coals under the stairs.

In Class C Mr. W. A. Greenam is first with a fairly satisfactory plan, but his low cube is the result of a roof arrangement which would not save much money in building—and it is certainly a debatable point whether it is good planning for nearly all the bedrooms to face the back so as to get an uninterrupted slope of roof in the front.

Mr. W. Ravenscroft is second with a scheme that shows undeniable tenements in the 18-ft. houses, and the coals have to be brought into the living-room. This cube is obtained on a "roof" design, and his lobbies occupy too much space. The elevations are well drawn.

Other competitors include Mr. A. S. Parker, Capt. Farey with a beautifully drawn scheme and economical planning; Mr. Horsley, whose drawings are most effective, but, as in Class A, his front elevation is too fussy, and his back is much better! There is also a design by Mr. Greenslade, with tenements; and Mr. B. P. Shires, who shows a bath pushed back into a recess 2 ft. 9 ins. wide, making it useless for bathing a child; and Messrs. Thornely and Rooke, whose design is one of the best in the class.

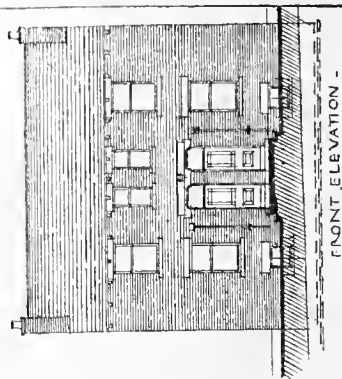
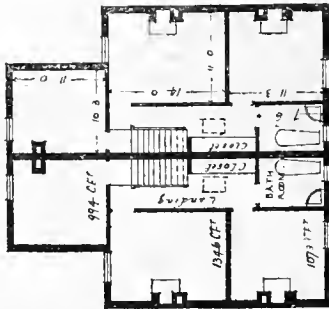
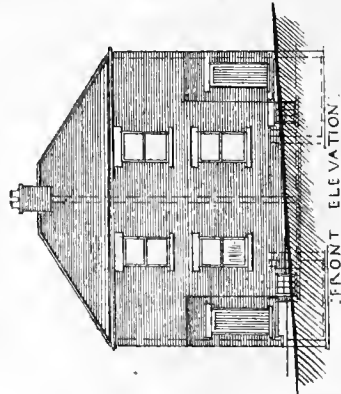
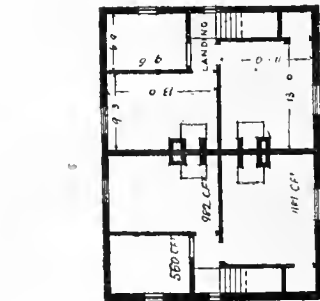
In Class D the award of the 1st premium is rather difficult to understand. The design is a well enough planned little one-story building by Mr. C. Cole, of Exeter, but no care is bestowed on the elevations, which show a flat on the top of a rectangular-hipped roof. Moreover, from the nature of its plan, it would be impossible to build it in pairs. We venture to predict that the lay mind will regard this as a dear £50 worth, and we are not prepared to contest the point.

Mr. W. A. Greenam's design, awarded the second premium, is a far better architectural composition, but the bedrooms open right off the living-room, and the bath is in the scullery.

Several good designs in this class are shown by Messrs. Thornely and Rooke. Mr. Allan Pinn, who has submitted drawings in all classes, shows a well-considered little plan in every case.

THE BUILDING NEWS, FEBRUARY 20, 1918.

BOLTON UPON DEARNE URBAN DISTRICT COUNCIL:
HOUSING SCHEME TYPE 1&2



BEDROOM PLAN

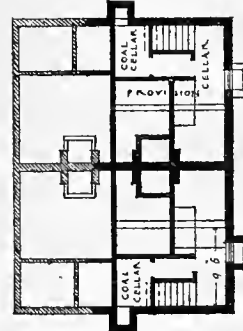
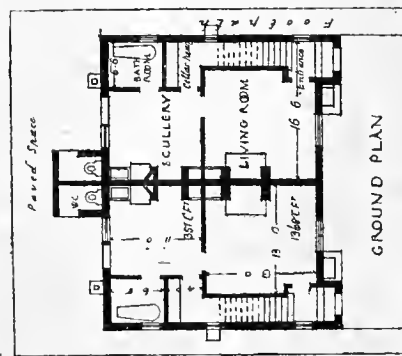
FRONT ELEVATION

BEDROOM PLAN

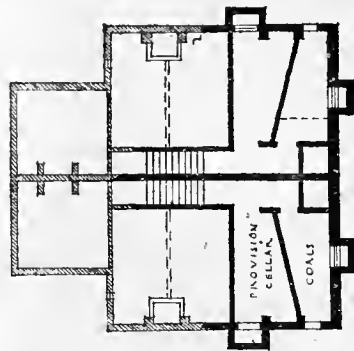
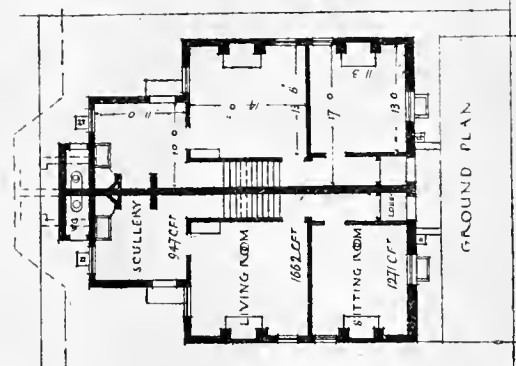
FRONT ELEVATION



JOHN W. WILSON.
ARCHITECT.



2

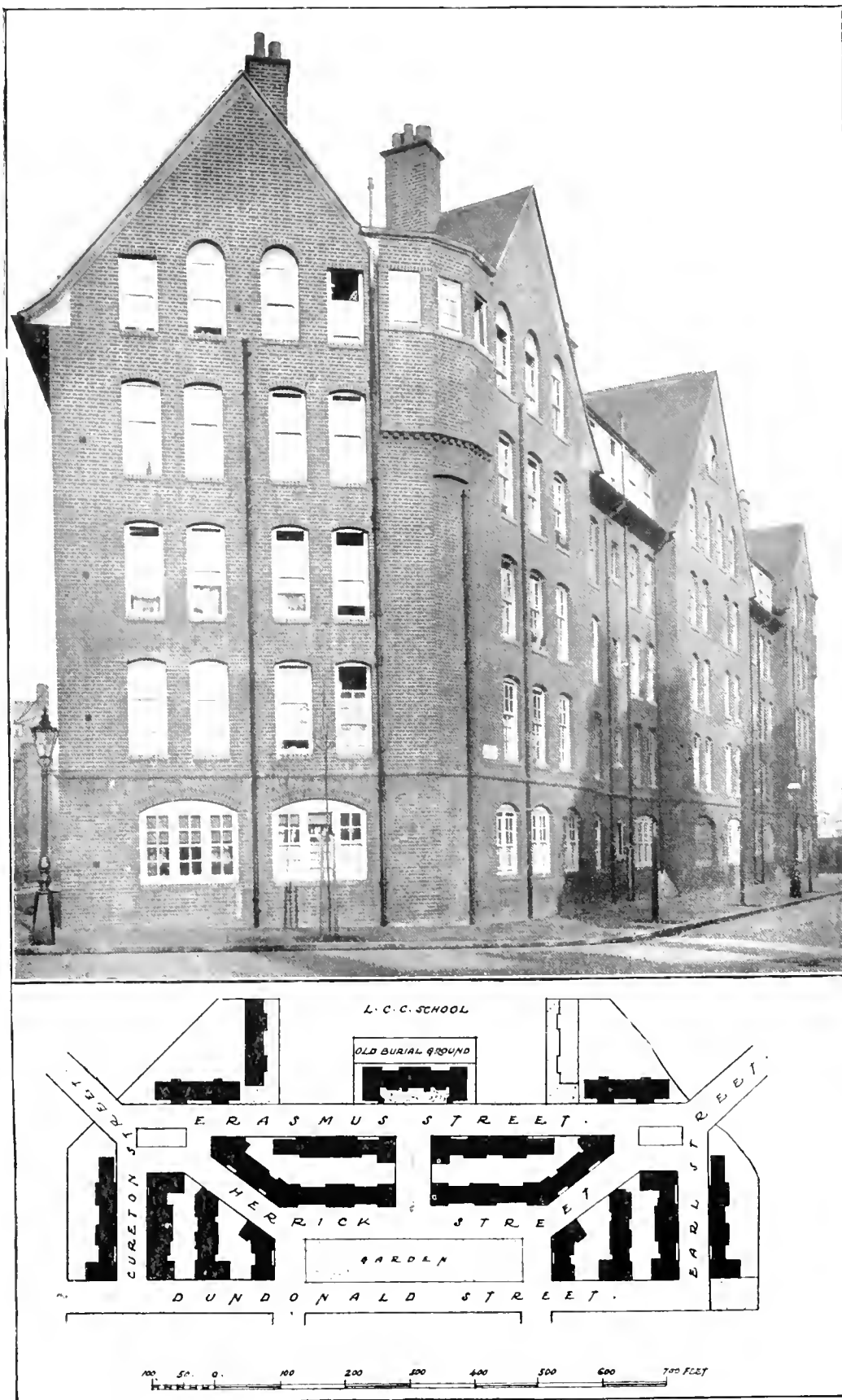


GROUND PLAN

BASEMENT PLAN

BASEMENT PLAN





LONDON COUNTY COUNCIL'S BETTER HOUSING FOR THE WORKING CLASSES.
 THE MILLBANK ESTATE, WESTMINSTER.
 Mr. W. E. RILEY, F.R.I.B.A., Superintending Architect, L.C.C.





LONDON COUNTY COUNCIL'S 'BETTER HOUSING' FOR THE
MR. W. E. RILEY, F.R.I.B.



WORKING CLASSES : MILLBANK ESTATE, WESTMINSTER, S.W.
Responsible Architect, L.C.C.

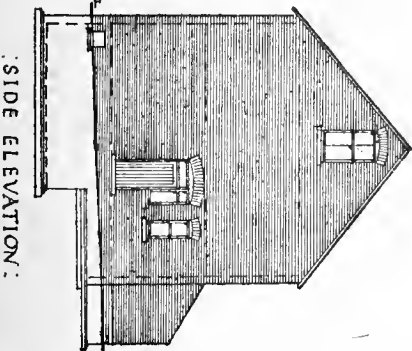
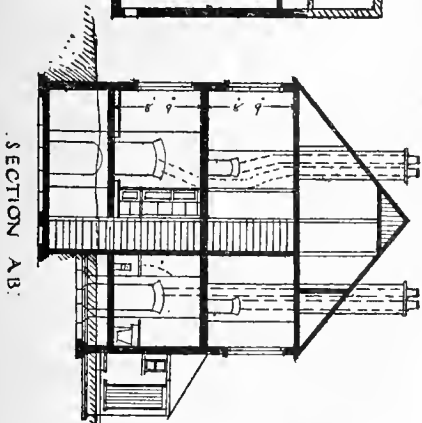
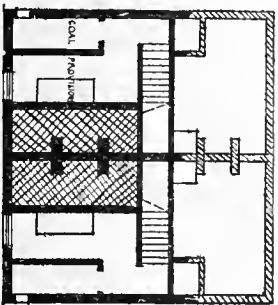
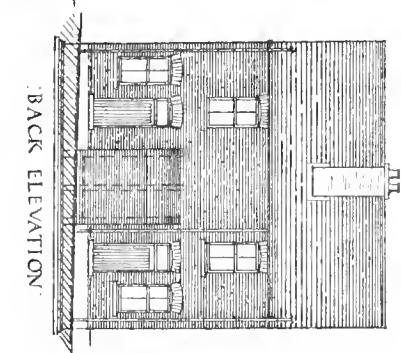
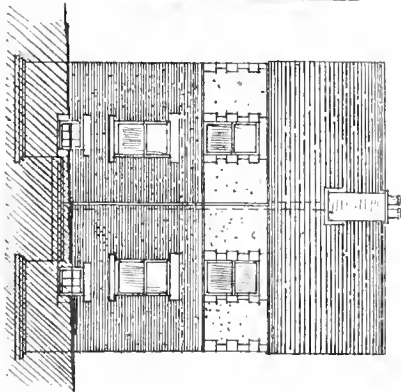
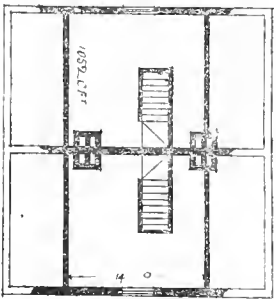


Chancellor, Photo.]

SELECTED DESIGN, NATIONAL UNIVERSITY OF IRELAND NEW BUILDING,
UPPER MOUNT STREET, DUBLIN.

Messrs. W. G. CLAYTON and W. SEDGWICK KEATINGE, M.M.R.I.A.I., Architects.

BOLTON UPON **DEARNE** **URBAN DISTRICT COUNCIL.**
HOUSING SCHEME TYPE 3.



Our Illustrations.

THE LONDON COUNTY COUNCIL'S BETTER HOUSING FOR THE WORKING CLASSES.

THE MILLBANK ESTATE.

To-day we give the last of the series of our selected illustrations of the work done by the London County Council for the better housing of the people, which we have been able to publish by the courtesy of the Housing Committee, and the help kindly rendered by Mr. W. Riley, F.R.I.B.A., the Superintending Architect to the Council. In our last six issues we have given four series of cottage-dwelling estates and one of tenement dwellings. That now published is of the Millbank Estate, the site of which covers an area of 8 acres 3 roods and 23 perches. It was purchased in December, 1896, under the Housing of the Working Classes Act, 1890, and Improvement Acts. The first contract was let in December, 1897, and the estate was completed in August, 1902, the work having been carried out under twelve contracts. The accommodation provided to date is for one estate office, 74 bicycle sheds, etc., let at 3d. per week; one five-roomed tenement, let at 12s. 6d. per week; 16 four-room tenements, let at from 12s. to 13s. per week; 392 three-room tenements, let at 8s. to 10s. 6d. per week; 484 two-room tenements, let at 6s. to 8s. 6d.; and two one-room tenements, let at 4s. 6d. to 5s. per week, making a total of 895 lettings. The total accommodation provided, taking two persons per habitable room of not less than 96 feet super., is for 4,430 persons, or 498 persons per acre; the actual population, including children, at March, 1915, was 2,914. The land cost £34,969 and the buildings £203,015, making a total of £237,984. The average cost per room, including buildings and plans, was £91 7s., and per foot cube, 8.65d. The loss by empties in 1916-17 was £45 15s. 6d., and the surplus on the year's working, £2,850 9s. 6d. The work was carried out by the designs of Mr. W. E. Riley, F.R.I.B.A., the Superintending Architect to the Council, and under his supervision.

SELECTED DESIGN. NATIONAL UNIVERSITY OF IRELAND NEW BUILDING, UPPER MOUNT STREET, DUBLIN.

Last week we published the elevations and plans, with two sections, of the chosen design for this university building, about to be erected in Dublin. To-day we give a detail of the entrance porch. The selected architects are Messrs. W. G. Clayton and W. Sedgwick Keatinge, M.M.R.I.A.A. We accompanied our previous illustrations of this work with a descriptive article, and gave some essential particulars, accompanied by notes, about this competition, lately decided on the award of the assessor appointed by the University of Ireland, Mr. C. J. MacCarthy, LL.D., F.R.I.B.A. There is nothing to add, therefore, on this occasion to what was then said.

HOUSING SCHEME, HIGHGATE LANE, BOLTON - ON - DEARNE. NEAR ROTHERHAM.

For details of these plans see description on page 140 by the architect, Mr. John W. Wilson, Surveyor to the District Council, by whom the houses were erected.

OBITUARY.

Regret is general in Scottish architectural circles at the death of Mr. James R. Rhind, of Inverness, who, among many other important buildings, designed several of Glasgow's district free libraries. The deceased was a son of the late Mr. J. Rhind, who designed many buildings in Inverness and the Highlands. Along with his brother, the late Mr. John Rhind, Mr. James Rhind became associated with his father's firm, and subsequently proceeded to Canada, where he successfully carried on business for a number of years in the city of Montreal, and afterwards returned and again set up business in Inverness.

SUGGESTIONS TOWARDS AN APPRE- CIATION OF THE PICTURESQUE CONSIDERED IN RELATION TO SOCIAL CONDITIONS AND ENVIRON- MENT.*

By MAURICE B. ADAMS, F.R.I.B.A.

My object is to awaken an interest, but perhaps some confusion may arise from a misapprehension as to what the word "picturesque" really means. The term is generally misused, and it is, of course, not exactly an equivalent to "pictorial." Certainly in its application to buildings or sculpture it implies much more, and cannot be limited to pictorial compositions set out on one picture field as in a drawing or painting. Picturesqueness is a relative quality, and De Quincey somewhere asked, "What is picturesque in relation to the beautiful and the sublime?" Sir Joshua Reynolds furnished an answer when he described a series of crosses as being "placed prospectively in an uncommonly picturesque manner."

This prospectivity of arrangement, architecturally speaking, comprehends the effect of a structure on all its sides, and judges the work likewise as to its particular purpose, its position on the site, and whether it must commonly be seen from above or from below. Accidents and decay may add to the picturesque, it is true, but we are treating of buildings, not ruins. The relation of a building to its environment is of great moment. A bleak and rocky open spot on a wild position demands a different edifice to one more suitable for a cosy coombe well sheltered by trees. The value of solids and voids comes into play; one feature governs another, thus determining the grouping and breadth of treatment. The proportions and perspective lines delineated as in a picture might exhibit a frontispiece from one point of view, but light and shade in the brilliant sunshine of June becomes absolutely another question during the half-tones of a winter's dull day.

Thus we begin to understand the importance of skyline and profiles in silhouette and in the round. Architecture is the mistress art, and must be more than a mere pictorial idea. She provides housing for man and beast, giving shelter for paintings, scope for sculpture, and opportunities for the arts and crafts. Architecture is absolutely fundamental.

Paradoxical, however, as it may seem, one primary distinction must be admitted, and so please to accordingly recognise therefore the absence of any sort of presumption on the part of our old picturesque building work to rank as architecture at all. It makes no such claim, and considered evolution in house-building in a precise periodical sense is unknown. All idea of preconceived quaintness was foreign to the genesis of these old fabrics. They are not warrens of incongruous oddments or little kinks of incoherent buggaboo art emulating their betters.

There was no make-believe about the builders who put them up, and therefore we glory in these delightful old cottages and rural buildings. They had no stylish notions, and what our ancestors built was spontaneous and new—therefore reasonable and pleasant. The manner adopted arose from daily needs and local materials ready to hand. The old-time housings are for all time understandable, and were inspired by individuality of character, by practical and traditional methods, thus giving the work of different countries local distinction. The craft employed was coherent, though at best, perhaps, little more than a sort of naively inspired rule of thumb without oblations of style. The beauties of British folklore, crude as old ballads or rhythms may seem, are undeniably human and devoid of the mannerisms of "polite literature." Chaucer, like Dante, employed the vulgar tongue. The spirit of the language is the most important key to the spirit of the people. The old craftsman inspired his job with the personality of individual charm, also intuitive harmony, rough in expression, but unsophisticated and native. He worked leisurely, putting his mind into his work because he enjoyed the task untrammelled by trade unions, though likely enough he

belonged to a neighbouring guild of artificers. After the more primitive erections of timber gave place to stone buildings, the carpenter long occupied a very inferior position, most of the work being in the hands of masons. Later on, when woodwork obtained its mastery among the crafts towards the close of the fifteenth century, the carpenter turned the tables on the mason, who, in his turn, emulated the triumphs of timber by endeavouring to copy wooden detail in stone. A few facts of this fundamental kind have to be kept in mind when considering the basis of the picturesque.

Building by-laws were very few even in London during the Middle Ages. The main problem was the manner of roofing, and this influenced the shape of all buildings from remote times in all countries. The ancient conical capania, still used by Italian shepherds along the Via Cappina, is distinguished as one of the most primitive forms of habitation, with its thatched roof and ranged round inside with sleeping hutches, like berths of a ship, the fire hearth being in the middle of the cabin. The country homes of England in earlier times had no fire-places or chimneys, also very few windows. Smoke flues eventually revolutionised, and, of course, enormously increased the picturesque outline of all dwellings, to say nothing of their comfort. The virility of the art of building, and especially the planning of houses, depended on details incidental to contemporary requirements as the counterpart of everyday customs carried out in an artless, straightforward way. The fashion, such as it was, resulted naturally in this simple manner. The worker in that sense was master of his craft, and emulation induced one good artificer to copy the better work of another, but the outcome, as a whole, was not imitative as a revived use of previous periods. Dead bones can never live.

The Gothic revival of mid-Victorian days failed for that reason, though the result was an enormous success. The buildings erected in consequence were designed by some of the ablest architects of the nineteenth century. The vast and enduring merit of their example no one can reasonably question, though at the moment the prevalent taste in design favours classical modes. Most excellent churches have been built on Gothic revival lines, but the school of Medievalists, like the cult of the pre-Raphaelites of yesterday, has had its day. The enterprise, however, was unique, picturesque, and inspiring. Impressionists and Cubists are to the fore meanwhile, and at present there is no common school of considered thought in architectural design, a leader of real distinction being wanting. There is no lack of literary dexterity, and enterprising professors vie with each other in the use of paradoxical phrases; but all the coteries, with their disputations and conferences, cannot get over the hiatus between the present and the past owing to the elementary fact that they cannot bring back our lost traditions. New art is an absurdity, inasmuch as there are only two kinds of art—the good and the bad. The best is artless, hence the mere outwardly equipped artist or schoolman has no abiding pregnancy in spite of his technique, which at first sight seems so captivating. Creative art cannot be evolved by copying extinct styles, though, on the other hand, progress must ever depend upon a digest of what has gone before, and, provided such knowledge is stimulated by a recognition of the whys and the wherefores of historic design, development is assured. That is my reason for insisting so much upon the atmosphere surrounding the subject under our consideration, as to what actually constitutes the real character of the picturesque, not that I can hope to put forward anything new in detail. Egotists have tried to become emancipated, and so, in order to become original, sought to ignore the alphabet of the arts. That sort of thing speedily tires, does not mature, and cannot weather well.

In judging architecture the standard applicable to monumental structures does not

* Paper read before the Royal Society of Arts on February 20, 1918.

apply to those of an inferior degree, and qualifications have to be observed as to scale, cost and purpose, as well as the influence of differing materials; but from the highest to the least the same proviso obtains in so far as imitative design must be reckoned as a misconception. Workmen now have no idea whatever as to the meaning of tradition. Scholarly academic productions belong entirely to another category, and when most correct and mechanically true to pattern they correspondingly fail. This lack of success arises from the absence of inventive imagination, the Divine afflatus—

"What boots it thy virtue,
What profit thy parts,
While one thing thou lackest—
The art of all arts?"

The capable architect takes precious good care to employ structural materials so as to preserve their relative scale of colour and natural texture. Finish and manner of jointings in all trades of building work are of extreme importance, and an artist worthy of the name has no fear whatever of making his work look new. He builds for to-day as well as for posterity, so time alone can test his work. To erect a sham ruin is only a catch-penny trick.

Local materials ought always to be locally used by old methods of handling without admixtures of foreign importations unless a district happens to have no good materials of its own. On the banks of the Nile mud-clay stands better than ferro-concrete faced with stone ashlar. Masonry soon rots round the base, on account of salt in the soil and the heat sucking up the saline. The blue slates of Wales look well enough midst the national mountain uplands, but no more ugly and hard-looking material can be used in a brick country like Sussex. The well-timbered countryside produced wood-framed houses, and where stone abounded masonry of course prevailed. Thus architecture naturally was native, forming part and parcel of the landscape.

Our inquiry begins with the Middle Ages. The earliest wooden structures had to do with bent-tree roof construction, which obviated solid sidewalls. The "crucks," or balks of timber—hence the word roof-tree—set "the wrong way up" on pieces of stone or slabs laid on the earth. In this manner the ridges and weight of the roofings were carried independently of vertical walling. Oak, elm, ash and beech timbers were employed, but chestnut wood only rarely. Basketwork and wattle daubed with mortar or mud served for the panels of framed structures, and filled in the interspaces in lieu of walls. In Stuart days brick fillings called "rogging" came into vogue; it was very heavy and in time sagged badly. The construction of wooden roofs reached its climax during the sixteenth century when the wright did most of the work, still using the adze for shaping and squaring the timbers which were cut into balks by the pit saw. The plane and moulding stocks were then unknown. The adze and the chisel gave a personal finish and charm of texture or touch, as may be seen by the church screens and benches in Devonshire and Suffolk. The work was not done to one dead level by the smoothing plane and sandpaper.

Oak shingles on roofs and weather boarding for walls gradually became more common, but thatch served for roofing in half the counties of England. Stone slabs were usual in the north parts of Cheshire and in Dorset. The risk of fire before engines were employed was met by erecting timber houses so unsubstantially that their frontages could be easily pulled down bodily into the road.

(To be continued.)

In connection with the appeal made some time ago in our columns some thousands of sticks have been supplied to various hospitals. The fund is still open, and matrons of naval or military hospitals may obtain strong walking-sticks for leg-wounded patients on communicating their requirements to I. R. W. Soper, Hon. Sec., Walking-stick Fund, 13, Morley Road, East Twickenham, where contributions may also be sent, and will be gratefully acknowledged.

ANCIENT AND MODERN BUILDINGS OF MESOPOTAMIA.

On Tuesday week the Rev. J. T. Parfit, Canon of Jerusalem, and for twenty years resident in the Turkish Empire, delivered a lecture at Carpenters' Hall, London, entitled "The Bridges and Buildings of Bagdad and Babylonia." The lecture was illustrated by lantern slides, some of which showed the ruins of the ancient city of Hatra. This city, the lecturer said, had been described by great authorities, such as Sir Henry Rawlinson, as the home of architecture. This was because when the Sassanian princes shook off the yoke of the Parthian they found architecture and every fine art at the lowest possible ebb throughout the greatest part of Western Asia; for the Parthian was a tent dweller, and, during his rule of 400 years, there had not been a single edifice of any architectural pretensions erected in his dominions, except at one place. This was at Hatra, where an Arab dynasty had resuscitated a native architecture after centuries of neglect; and here the Sassanians found the materials out of which to form a style of architecture suited to their needs. The slides with which the lecturer illustrated Sassanian buildings included some of the Arch of Ctesiphon, built by Chosroes II., as it was forty-five years ago when still in a state of comparatively good preservation; and as it is to-day. This building, said the lecturer, was 85 ft. by 115 ft., and its walls were 12 ft. thick. One of the wings had now fallen, owing to the bricks having been taken to build a mosque over a shrine near by, that of the barber of Moham-med. A similar fate had been the cause of the dilapidated state of many of the other ancient monuments of Mesopotamia.

Of Hatra itself the lecturer said that it was an interesting circular city, its walls flanked by numerous towers. It formed almost a complete circle, in the centre of which rose the palace—an edifice of great magnificence solidly constructed of square stones elaborately carved with figures and ornaments. He had shown the photograph of these ruins to some of the German excavators of Babylon, who had declared that it was unique. Very few Europeans had visited this interesting place in the very middle of the Mesopotamian plain.

Much more ancient ruins than these, the lecturer said, were being excavated by the Americans at Nimpur, mentioned in the tenth chapter of Genesis. Here there were no real foundations laid for the walls of the city; but, as the very slight slope of the hill was indicated, so each brick was placed in just a little higher or lower than its neighbour. Thus the wall followed the curvature of the country.

Other slides showed the ruins of Babylon with the Birs Nimrud, the alleged Tower of Babel. This was evidently, he said, part of a palace that had been destroyed by fire; for the boulders alongside were vitrified brickwork, and if you struck them they rang like iron. Another slide showed the Ishtar Gate of the Palace of Nebuchadnezzar. All the buildings in this part of Mesopotamia, the lecturer said, were anciently and in modern times also of brick. The bricks of Nebuchadnezzar were of different kinds: some were sun dried, others prepared in kilns. The best were of artificial material prepared from lime and sand. In some places they were remarkably well laid, and with marvellously strong cement between. For a thousand years the ruins of Babylon had been the quarry for all the little towns alongside the Euphrates. For the last twenty years thousands of men had been working upon these ruins, yet the revealing of Babylon's wonders had not been completed. But it would take forty years to uncover the monuments of Nineveh. These were not of brick, but of a soft grey marble, and the same material was used for the modern town of Mosul in the same part of Mesopotamia.

Other lantern slides showed not only ancient ruins, but also modern construction—the latter being very largely due to British enterprise, and being very similar to modern building in India. Whether in ancient or modern times, the lecturer said, the chief thing in Mesopotamia was to erect something

which should not be destroyed by God, and where the inhabitants would not be suffocated during the excessive heat of the summer months.

PROFESSIONAL AND TRADE SOCIETIES.

EDINBURGH ARCHITECTURAL ASSOCIATION.—The fourth meeting of the Association is being held in the Association Rooms, 117, George Street, to-night, at 8 o'clock p.m., Mr. T. Forbes MacLennan, A.R.I.B.A., President, in the chair. The lecture and discussion are on "The Tenement—Must it continue to have a Place in Scottish Housing? If so, in what Amended Form of Plan and Layout?" Illustrated by lantern-slides, by Mr. J. A. Williamson, A.R.I.B.A., City Superintendent of Works, who is dealing with his subject as follows: Housing propaganda—Bias in favour of cottage—Likely to become the standard type ultimately—A period of transition—Standard price of land—Tenement not ruled out by Royal Commission—Health statistics of tenement—Past housing conditions—Exorbitant feu-duties—Building zones—Effect on land values of limiting densities—Effect of three and two stories on feu-duty—Influence of concentration on cost—Function of architects—Open competitions for housing plans—Employment of successful architect—Field for variety in planning and lay-out—Examples

LIVERPOOL ARCHITECTURAL SOCIETY (INCORPORATED).—An ordinary sessional meeting was held in the Society's Rooms, at 4.30 p.m., on Monday, for a general discussion on various schemes and proposals for housing the working classes. Mr. T. T. Rees, F.R.I.B.A., F.S.I., opened with a criticism of plans recently published in the professional papers, and was followed by other members, who dealt especially with the "Special Report of the Royal Commission on Housing in Scotland," the "Report of the Departmental Committee on Buildings for Small Holdings," the Government "Well Hall Estate," and other schemes. The Council of the Society invited the attendance of the various local medical officers, borough surveyors, and other officials connected with housing, and a good general discussion ensued.

SURVEYORS' AND AUCTIONEERS' CLERKS' ASSOCIATION.—The thirty-fourth annual report of this association has just been issued. The funds of the association amount to £10,008 14s. 5d., of which £500 was invested during the year in the purchase of 5 per cent. War Stock and National War Bonds. The income, including subscriptions and interest on investments, amounted to £714 1s. 8d., and the disbursements to £550 5s. 1d., thus showing a profit on the year's working of £205 4s. 9d. The income, compared with that of the previous year, is £35 19s. 10d. more, whilst the expenditure increased by £98 17s. 1d. The annual general meeting will be held at the Auction Mart on Wednesday, March 6, at 7 p.m.

LEGAL INTELLIGENCE.

MR. ARNOLD LUPTON, EX-M.P., SENTENCED. At the Bow Street Police Court, London, last Saturday the hearing was resumed of charges against Mr. Arnold Lupton, civil engineer, formerly M.P. for the Sleaford Division of Lincolnshire, of having in his possession copies of a certain leaflet and of assisting to publish and disperse the same. Samuel Howell Street was summoned for printing 2,500 copies without imprint and failing to keep a filed copy. All the offences were against the Defence of the Realm Regulations. Street was fined £62 10s. and ten guineas costs on the first summons, and £10, with five guineas costs, on the second.—Sir John Dickinson, in sentencing Mr. Lupton to six months' imprisonment in the second division, said he was satisfied that the whole tendency of the leaflet was mischievous and calculated to cause disaffection.—Later in the day sureties, two in £50 each and defendant himself in £100, were produced and accepted for the prosecution of an appeal against Mr. Lupton's conviction and sentence. Mr. Lupton was thereupon liberated pending the hearing of the appeal at the Sessions in April.

COMPETITIONS.

THE LOCAL GOVERNMENT BOARD AND R.I.B.A. HOUSING COMPETITION.—Last week we gave the awards in the South Wales and Cardiff area for the Housing Competition, and published a review of the prize schemes. The results of the Manchester and Liverpool area competitions also appeared on page 137, with the list of the assessors employed. The referees engaged on the Metropolitan and Home Counties area designs, numbering 685 to hand, likewise were enumerated. The following further results have now been received. From Birmingham we learn that the Midland area awards occur in this order, and the plans have been on view in the Birmingham Art Gallery.

Class A.—First prize, £100: Stockdale, Harrison, and Sons, A.A.R.I.B.A., Leicester; second prize, £50: N. B. Robertson, A.R.I.B.A., Leicester; highly commended: Arthur McKewan, A.R.I.B.A., Birmingham; Crouch, Butler, and Savage, F.F.R.I.B.A., Birmingham, and Edward Garratt and H. W. Simister, Birmingham.

Class B.—First prize, £100: Stockdale, Harrison, and Sons, A.A.R.I.B.A., Leicester; second prize, £50: F. W. C. Gregory, Nottingham; highly commended: N. B. Robertson, A.R.I.B.A., Leicester; Frank H. Bromhead, Hereford; and Charles F. Simms, Stoke-on-Trent.

Class C.—First prize, £100: F. W. C. Gregory, Nottingham; second prize, £50: Stockdale, Harrison, and Sons, A.A.R.I.B.A., Leicester.

Class D.—First prize, £50: Variation on type B, Cleland and Haywood, Wolverhampton; second prize, £30: Variation of type A, Arthur McKewan, A.R.I.B.A., Birmingham; highly commended: in Class A, Stockdale, Harrison, and Sons, A.A.R.I.B.A., Leicester; in Class C, Cleland and Haywood, Wolverhampton. Messrs. W. Alexander Harvey, F.R.I.B.A., Birmingham; Harry Gill, M.S.A., Nottingham; S. Perkins Pick, F.R.I.B.A., Leicester; Sidney F. Harris, F.R.I.B.A., Northampton, were the assessors. 107 competitors submitted 248 drawings. The Northern Architectural Association appointed the following assessors for the Newcastle and Northern area competitions:—Messrs. R. B. Dick, president, and J. R. Wigfull, Hon. Sec. Sheffield and S. Yorks Arc. Soc.; Mr. L. Kitchen, of the York and E. Yorks Society, and Mr. W. H. Thorp, Leeds and W. Yorks. Society, and the list of their awards stands thus:—

Class A.—First premium, £100: I. Hervey Rutherford, York; second premium, £50: Alex. Inglis, Lic.R.I.B.A., Hawick.

Class B.—First premium, £100: Alex. T. Scott, Huddersfield; second premium, £50: Knowles, Oliver, and Leeson, Newcastle.

Class C.—First premium, £100: Knowles, Oliver, and Leeson, Newcastle; second premium, £50: Alex. T. Scott, Huddersfield.

Class D.—First premium, £50: F. R. Dunkerley, Altrincham; second premium, £30: R. E. Hastewell, A.R.I.B.A., Haltwhistle. In the South-Western area the awards are as follows:—

Class A.—First prize, Messrs. Thornely and Rooke, Plymouth; second prize, Mr. W. Heathman, Bristol; hon. mention, Mr. T. Bradford Ball, Western-super-Mare.

Class B.—First prize, Messrs. Thornely and Rooke, Plymouth; second prize, Mr. Heathman, Bristol.

Class C.—First prize, Mr. W. A. Greenam; second prize, Mr. W. Ravenscroft.

Class D.—First prize, Mr. C. Cole, Exeter; second prize, Mr. W. A. Greenam. We have received several letters, some of considerable length, and for none of which can we spare space, challenging some of the awards as contrary to the conditions, more especially in the South Wales area competition.

MAIDSTONE.—The Housing Committee of the Maidstone Town Council have appointed Mr. H. V. Lanchester, F.R.I.B.A., to be the qualified assessor to adjudge, with the committee, competitive designs for the housing scheme at Barming, at an inclusive fee of £26 5s.

PLAQUE FOR RELATIVES OF FALLEN.—Five hundred competitors from all parts of the Empire have, it is stated, sent in designs for the memorial plaque which the Government propose to present to the next of kin of all who have fallen in the war.

Our Office Table.

In a Congregation held at Oxford yesterday a form of statute was promulgated, at the instance of the General Board of Faculties, establishing a Committee for the Fine Arts. The Committee will be given power to make arrangements for lectures and courses of instruction to be given within the University on the fine arts or "subjects pertaining thereto," and also to submit to the General Board of the Faculties, if it thinks fit, proposals for the institution of a diploma or certificate in the subjects under its control, or for the promotion of the study of these subjects by the introduction of other appropriate University examinations. Music, being already provided for, does not appear to be included in the subjects under the control of the Committee.

The location of the City of Rio de Janeiro, Brazil, is such that it is cut off from cool winds by an elevation known as Costello Hill. For a hundred years or more it has been proposed that this obstruction be removed, and now a syndicate has been formed which has applied to the Government for permission to level the hill, using the material removed to reclaim a large area of submerged land. The work will involve the removal of 47,000,000 cubic yards, and it is estimated that the cost will be over a couple of millions of pounds.

An official inquiry into the application of the Wallasey Corporation for sanction to borrow £20,250 after the termination of the war for the provision of furniture, fittings, and general equipment of the new Town Hall was held last Wednesday, before Mr. H. A. Chapman, a Local Government Board inspector. The new Town Hall, which is not yet completed, is being used as a military hospital. The payments in respect of the original building contract had amounted to £81,075. The present application was for powers to borrow £20,250 for the provision of furniture, fittings, and general equipment. There had been no extravagance in regard to the estimates. The work would be done by contract, and the completion and equipment of the building could not be effected in less than six months after the War Office gave up possession of the town hall. Evidence in support of the application was given by Alderman Parkinson, Alderman Swanwick (chairman of the Works Committee), and by the architect of the building, assurances being given that every regard was being paid to economy. The building was illustrated in our issue of May 16, 1913, the architects being Messrs. Briggs, Wolstenholme and Thornely.

At the annual meeting of the Birmingham Incorporated Building Society last week, the chairman (Mr. A. Walker) said one noticeable fact during the year had been the revival in the property market—during the second half of the year in particular. The auction sales had been quite successful, and it had been no uncommon occurrence for 90 per cent. of the lots offered to be sold, which tended to show that in spite of very attractive opportunities of investing money in Government securities, bricks and mortar had not lost their patrons. Of course, to some extent this was attributable to the dearth of houses, the demand being greatly in excess of the supply. Landlords were now offering even six-roomed houses singly, first giving the tenant the opportunity of becoming the owner, but he was afraid with the veiled threat that if he or she did not purchase someone else would, and as the question of finding another house was almost impossible, the tenant had strained every nerve to purchase.

A communication from an expert quarter points out that the full importance of the German roofing felt industry has been first revealed by the war. The annual consumption of the army during the war has been about 100,000,000 square metres. This figure does not include the consumption for munition factory buildings, which has amounted to about 28,000,000 square metres per annum.

After the war considerable building activity may be expected, and this will mean a large demand for roofing felt, especially as during the war the existing felt roofings have been neglected in order that the huge army demand may be satisfied. Nevertheless, the German roofing felt industry will not be able after the war to dispose of its produce in the same quantities as hitherto, because for the first few years at any rate there will be no possibility of export. Moreover, American competition, which was making itself more and more noticeable on the German market before the war, will be still formidable after the war, especially on foreign markets, as a result of the increased economic strength which America has acquired through the war. In view of all these circumstances the German roofing felt industry has recognised the necessity of economic concentration, and a working committee has been formed to arrange the formation of a roofing felt syndicate.

The Finance Committee of the London County Council on January 22, 1918, granted an additional war bonus of 1½d. an hour to various employees and labourers in the building trade employed in the stores department, as from the first full pay day following October 19, 1917, i.e., as from October 20, 1917. It is stated that the Asylums and Mental Deficiency Committee have decided that the advance shall be paid to men in the asylums service as from the same date. It appears that, in equity, the advance from the same date cannot be withheld from other men employed elsewhere in the building trade in the Council's service. In these circumstances the Council is recommended to grant an advance throughout its service to men in the building trade as from the first full pay day following October 19, 1917, and the Finance Committee is communicating with the other committees concerned with a view to their putting forward any necessary supplemental estimates. This, the third, war wages advance in the building trades was restricted in the first instance to men working on munitions work (Minutes, November 27, 1917, p. 1049), but, following an agreement by the London Master Builders' and Aircraft Industries Association, was recently extended, in the form of war bonus, to workmen within the London area not engaged on such work. It is now recommended that, as from the first full pay day following October 19, 1917, the rate of pay of the various employees and labourers in the building trade employed in the Council's service be increased by an additional war bonus of 1½d. an hour.

The affairs of Claridge's Patent Asphalte Company, which dates back to eighty years ago, and which has failed, were dealt with by the official receiver in the London Bankruptcy Court on Friday week under a compulsory winding-up order. The business was carried on successfully until 1911, and in 1888, when the company had been in existence for fifty years, an average of over 13½ per cent. per annum had been paid in dividends and bonuses since its formation. The failure is attributed to unprofitable contracts, which were rendered more disastrous by reason of the increased cost of raw materials, labour, and transit.

There was submitted to the Hamilton Town Council last week an offer by Messrs. William Bain and Co., for the building of three tenements, each containing room, kitchen, scullery, bathroom, and conveniences, the estimated cost of each tenement being £1,590, exclusive of roadmaking, pavements, sewers, etc., against an estimated pre-war cost of £534 per tenement, or £146 per house. The opinion was expressed that it was impossible for the Council to proceed with a scheme of housing without some subsidy from the Government, as it would be necessary to charge a rental of £30 per annum. Ex-Provost Keith was appointed to bring the figures before the representatives of the Government.

The proposals of the London gas companies that are now before Parliament for altering the sliding scale which regulates the payment of their dividends will, we are glad to see, meet with determined opposition from nearly every public authority that considers itself

affected by the proposals. No fewer than 57 opposing petitions have been presented, including the County Councils, the Corporations and the District Councils within the limits supplied by the companies. The five London companies affected are the Gas Light and Coke Company, the South Metropolitan Gas Company, the South Suburban Gas Company, the Commercial Gas Company, and the Brentford Gas Company.

The right of the Dublin Corporation to paint street names in Irish has been raised, we learn from the *Irish Builder*, by the Local Government Board auditor, Mr. J. L. King, in his report of the audit of the corporation accounts for the year 1916-1917. He holds there is no statutory authority for expenditure on this work, and disallows items dealing with it. "An objection," he explains, "was lodged by Mr. T. Henry Maxwell, B.L., to the cost of painting up on street name-plates 'words other than the legal name of the street in the English language and in legible English letters.' The particular name-plates objected to, in addition to Essex Gate (the proper name of the street) in English have 'Isolde's Gate' painted up on them in the Irish language. This objection appeared to be well founded, and I therefore disallowed the particular item objected to, amounting to 1s. 6d., as well as items of the same nature amounting to 8s. 3d., and two other items of a somewhat kindred character incurring in connection with the bilingual naming of the streets, the amounts of the latter being £3 5s. 3d. and £3 16s. 8d. respectively."

The Herts C.C. have resolved to provide smallpox accommodation for the combined districts of Cheshunt urban and the three Barnets, at an outlay of £6,000.

Lord Leverhulme, in the course of an address last Wednesday at the Royal Society of Arts, remarked that the suggestion of a six-hour day was the example of St. Paul, who laboured six hours daily as a tent maker, so that he could devote the remaining hours to his life's work—service to his fellow-men.

The death of Mr. William Lockett Agnew, senior partner in the firm of Messrs. Thomas Agnew and Sons, of Bond Street, W., and Manchester, is announced. Mr. Agnew was at his galleries in Bond Street on Tuesday week, in his usual health and spirits. Last Wednesday morning he was taken ill, and died at 10.30 last Friday morning at his town house, 10, Chesterfield Street. The funeral took place yesterday at Golders Green Cemetery.

Mr. W. H. Wells, the President of the Institute of Estate Agents and Auctioneers of the United Kingdom, addressing last Friday night, at the Midland Hotel, the members of the Manchester branch, dealing with housing after the war, recommended that rates should be paid direct by all tenants by rate stamps attached to the rent-books. Mr. Hayes Fisher had stated that it was proposed to assist local authorities in the erection of some 300,000 houses. Mr. Wells hoped that proper safeguards would be insisted upon to ensure that the houses should be let at economic rents.

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TENDERS.

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DERBY.—Boiler and electric coal wagoons, for the town council:—

Accepted tenders:—Boiler for electricity works, Babcock and Wilcox, Ltd., £4,595; two electric coal wagoons, General Vehicle Co., Ltd., £2,810.

DUDLEY.—Erection of tramways shelter in Market Place, for the corporation:—

A. J. Crump, Dudley (accepted) £135 0 0

GLASGOW.—For the installation of electric light in the exhibition building of the British Industries Fair, for the corporation:—

Allan Arthur and Ure, Glasgow.. £699 19 6

HEMEL HEMPSTEAD.—For repairs at maternity and child welfare centre, for the Hertfordshire County Council:—

E. and C. Gleister, Hemel Hempstead (accepted) £85 0 0

ROCHDALE.—For the supply and erection of ten modern fire-grates for day rooms at the Rochdale Poor-Law Institution, Dearnley, for the guardians:—

G. Baker and Bros., Princess Street, Rochdale (accepted).

At Cambridge, at a meeting of the Vice Chancellor and heads of the colleges held last week, William Ridgway, Doctor of Science, Fellow of Gonville and Caius College, was elected to the Disney Professorship of Archaeology for five years.

Mr. Edwin Charles Taylor, architect, surveyor, and estate agent, of Woolwich, died on February 3, at 35, Blackheath Road, Greenwich, in his sixty-eighth year. A native of Woolwich, he spent the whole of his life in the district, and was well known in the licensing trade and as a Freemason.

A massive triumphal arch in memorial to the soldiers of New York State who see service in the present war is included in the plans for the New York State office building approved by the board of trustees of public properties. The design is by Mr. Louis F. Pilcher, the State architect.

We regret to record the death of Mr. Lyons R. S. Walcott, J.P., F.S.I., which took place at 79, St. George's Square, S.W., on February 13, at the age of sixty-seven years. The deceased was formerly a partner in the old-established firm of Messrs. Hussey, Walcott, and Co., 1, Gray's Inn Place, W.C., which was established in 1803.

Lieut.-Colonel Clifford Probyn died at his residence in Regent's Park on the 10th inst. at the age of seventy-six. He represented the Strand Division on the London County Council, of which he had been a member since 1889. He was Mayor of Westminster in 1901-2, and one of His Majesty's Lieutenants for the City of London. He had been a member of the Royal Society of Arts since 1876.

LIST OF TENDERS OPEN.

COMPETITIONS.

Feb. 23.—Preliminary designs for new public school buildings, with chapel, assembly halls, library, science and art rooms, swimming bath, etc., at Bolton, for the Trustees of the Bolton School and Lord Leverhulme. Premiums, two hundred guineas, one hundred and fifty guineas, and one hundred guineas. Assessors, Mr. John Bradley Gass-F.R.I.B.A., and Mr. Arthur John Hope, Lic.R.I.B.A. Conditions obtainable from Messrs. Bradshaw, Gass, and Hope, 19, Silverwell Street, Bolton, on and after February 23. Deposit £1 ls., returnable on receipt of plans.

BUILDINGS.

Feb. 20-28.—Painting (internal and external), repairs to roof, and other work at the Southwark Military Hospital, Bulwich Grove, S.E.—For the Guardians of Southwark Union.—A. P. S. Smith, Clerk, Guardians' Offices, Uford Street, Blackfriars Road, S.E.

Feb. 21.—Foundations in connection with boiler-house extensions at the Feeder Road Works, Bristol.—For the Electrical Committee.—H. F. Proctor, M.I.C.E., M.I.E.E., City Engineer and General Manager, Electricity Department, The Exchange, Corn Street, Bristol.

ENGINEERING.

March 11.—Construction and maintenance of a ferro-concrete built superstructure for cold stores, Avonmouth Docks.—For the Docks Committee.—Secretary of the Docks Committee, Docks Office, 19, Queen Square, Bristol.

March 30.—The Acting British Consul at Santiago reports that a decree has been issued calling for tenders for the improvement of the port of Antofagasta (Chile). By the terms of this decree the amount to be expended on this work must not exceed £1,700,000. Details may be obtained from the Port Commission Offices in Santiago, and copies are expected to be received shortly at the offices of the Chilean Legation in London, 22, Grosvenor Square, W.I. Tenders will be received up to 3 p.m. on March 30 by the Minister of Finance, Santiago.

The salary of the city engineer of Nottingham (Mr. T. Cank) has been increased from £400 to £600, and a bonus of £25 a year has been granted to Mr. Ransom, assistant engineer.

The Local Government Board held an inquiry on February 13, at the Town Hall, into the application of the Merthyr Tydfil T.C. for sanction to borrow, after the war, £13,000 for a central library, and £12,000 for the extension of the public offices, such buildings to be erected on a site in High Street, adjoining St. David's Church.

Three new Academicians were elected last week by the Royal Scottish Academy, Mr. Marshall Mackenzie, A.R.A., architect, of Aberdeen, and Messrs. D. Y. Cameron, A.R.A., and Edwin Alexander, R.S.R.A., painters. Mr. A. Marshall Mackenzie is the head of the firm of A. Marshall Mackenzie and Son, architects, Aberdeen. He is an LL.D. of Aberdeen University, a recognition of his work as architect of the Marischal College extension, opened by the late King Edward in 1906. His best-known works include the Waldorf Hotel, London; the Australian Commonwealth Government buildings, Strand, London; the Church of Crathie, Balmoral; and Mar Lodge. He is a native of Elgin, and is sixty-nine years of age.

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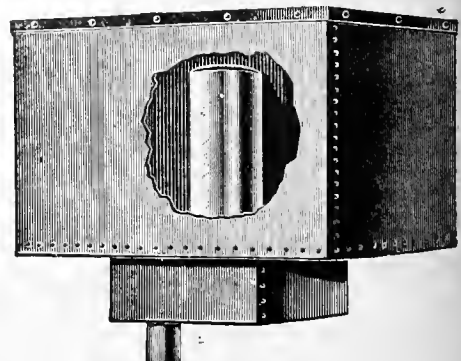
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Front Entrance, "Torwood," Purley, Surrey. Mr. Sydney J. Tatchell, F.R.I.B.A., Architect.	

Strand, W.C.2.

*Sketches and Slides illustrating the Royal Society of Arts' lecture by Mr. Maurice B. Adams, F.R.I.B.A. "Suggestions towards an appreciation of the picturesque considered in relation to social conditions and environment." A cruck building near Sheffield; Attie Kemscott Manor, Surrey; cruck roofing Arley Old Barn, Cheshire, and interior of Warburton Church, Cheshire; arch crucktree houses, Gloucestershire, and Weobly, Herefordshire; also a house at Worfield, Salop; also roof, Leominster, Sussex, and some seventeenth century wall papers, Borden Hall, Kent, with fireplace interior view.

Currente Calamo.

The *Surveyor* takes Mr. Herbert Wigglesworth's recent paper on the unity of the profession, read before the Society of Architects, and the consequent discussion thereon, as its text for a very reasonable reminder that the advice given "has an echo for municipal engineers." Our contemporary says:—"We have always held the opinion that where the main politics of the profession are concerned no substantial progress can be made in the absence of complete unity in demands, which should be formulated by a central organisation, backed by the widest possible constituency of members. This does not necessarily mean that there is not room for more than one professional institution. It does mean, however, the closest co-operation in the direction indicated, and the exercise of mutual forbearance in the common interest." That is sound sense. Might it not be possible, with advantage, to unite for such laudable ends the civil engineer with our own proposed members of such an organisation as Mr. Wigglesworth postulated? He often is an architect, and, as we record in another paragraph, has not seldom very good reason to seek any decent help in resisting the interference with his rights and duties by public bodies and other corporations.

What is commonly called Landlord's Property Tax, and is really Income Tax under Schedule A, is always paid by the tenant of the house on which it is assessed, and who is the person primarily liable. But the old Income Tax Act, 1853, now 65 years ago, provides that the landlord shall allow this tax to the tenant as a deduction from his rent during the current year. The Act does not say that the tenant shall then produce a receipt proving this payment, nor has any of the amending Acts. That omission has led to constant litigation ever since. The latest example is the case of the North London and General Property Company (Ltd.) v. Ernest E. May (Ltd.), just decided by the Court of Appeal. The first round in this match was on June 18, 1917, when the plaintiffs came off completely victorious. The facts were quite common and undisputed. When plaintiffs asked for the quarter's rent of £48 15s., defend-

dants replied that they had paid this sum as tax at 5s., and offered to produce the official receipt if called upon. Then plaintiffs refused this proposal, and sued for the rent. At the trial Mr. Justice Low went fully into the Act and cases, and ended by ruling that the tenant was bound to take his tax receipt to the landlord before he could legally claim it as a deduction from rent due, which is the usual practice. The judge was very clear and emphatic on the point, and gave judgment against the defendants, with costs and comments. But, on the second round, in the Court of Appeal, this decision has now been entirely reversed quite as emphatically. Three Lords Justices agreed in holding that a tenant who has paid the landlord's property tax is not bound, before deducting that amount from the rent, to produce to the landlord his receipt for the tax. The Appeal Court, after pointing out that the Act did not say he was to do so, went on to quote authorities showing that payment of the tax was so far in satisfaction of the rent, or was a payment of rent in advance. The Court was quite certain that no receipt need be produced before deduction, so judgment was for defendants, with costs of the appeal, but not of the action; though the defendants were now held to have been right all through! It is some time since Hamlet railed at "The Law's uncertainty," but his words still ring true.

It is worth notice that in any scheme of State Registration care will have to be taken to exclude not only the irregular individual practitioner who at present adds various occupations to his profession of architecture, but the large corporations which get their work done on the cheap with hired labour. A very proper protest is being made in Canada by the civil engineers of Quebec against a Bill promoted in the Quebec Legislature by the Quebec and Atlantic Railway Company, seeking a charter which contains one clause which appears to infringe on the rights of civil engineers, and to be contrary to Act 2, Edward VII., cap 25, which defines the qualifications of persons acting as civil engineers in the province. The Quebec and Atlantic Railway Company propose to take some very wide powers, including

those enabling them to carry on business as lumber dealers, agriculturists, owners of water-powers, wool, cotton, and paper manufacturers, miners, and smelters, and so on. The clause which is objectionable from the engineers' point of view is D., Art. 8. This gives power to erect and operate blast furnaces, plants for the manufacture of Bessemer and open-hearth steel, electric furnaces, steel plants, rolling mills, foundries, plants for the construction of steel bridges and machinery; also to act as engineer and contractor for the construction of iron and steel bridges, railways, highways, steamboats, cars, and for the manufacture of steel and iron productions of all kinds. Now, the Act referred to above is very explicit in defining who shall practise as civil engineers. It says: "The expression civil engineer means any one who acts or practises as an engineer in advising on, in making measurements for, or in laying out, designing, or supervising the construction of railways, metallic bridges, wooden bridges, the cost of which exceeds \$600; public highways requiring engineering knowledge and experience, roads, canals, harbours, river improvements, lighthouses, and hydraulic, municipal, electrical, mechanical, or other engineering works, not including Government colonisation roads or ordinary roads in rural municipalities; but it is not deemed to apply to a mere skilled artisan or workman." It is further provided that no person shall be entitled in the Province of Quebec to use the title of civil engineer, or any abbreviation thereof, or any name, title, or description implying that he is a corporate member of the Canadian Society of Civil Engineers, nor to act or practise as a civil engineer within the meaning of the Act, unless he is a member of the society, or was practising as such before the Act came into force. The whole effect of the Act is to enable eligible persons in their individual capacity to become members of the society, and the seeking of powers to practise as engineers by such concerns as the Quebec and Atlantic Railway Company appears to be contrary to the Act quoted above. Companies, in short, are not allowed to practise as engineers.

A very useful "Digest of the Report of the Royal Commission on Housing in Scotland," by W. E. White, solicitor, Hamil-

ton, and Clerk to the District Committee of the Middle Ward of the County of Lanark, is published by Messrs. William Hodge and Co., 12, Bank Street, Edinburgh, at half a crown. It will, of course, principally interest our Scottish readers; but others may with profit spend half a crown on it, for the summary of existing powers of local authorities is at least suggestive, and no one this side of the Border has given us anything like Mr. White's careful analysis of the local and other regulations which not infrequently have proved pitfalls for the architect and the builder, and may induce the conclusion that in some respects they manage these things better in Scotland than we seem to do.

Five years from last Monday we shall be keeping the bi-centenary of the death of Sir Christopher Wren, who died in his 91st year on February 25, 1723. Besides being the architect and builder of St. Paul's Cathedral, he erected Greenwich Hospital, Chelsea Hospital, the Theatre at Oxford, Trinity College Library, Emmanuel College, Cambridge, the Monument in London, and Queen Anne's fifty churches. St. Paul's cost £736,752 2s. 3½d., the Monument £8,856 8s., and the fifty churches £278,433 0s. 11¾d. Although Wren helped more than any other individual to beautify the city of London, he was the worst-paid architect of any eminence on record; his annual salary as architect of St. Paul's was £200, and his pay for rebuilding the churches in the City was only £100 per annum. His funeral, however, was a very imposing one, and he lies buried in the crypt of St. Paul's Cathedral, his grave being covered with a black marble slab with a short inscription in English; but his memory is perpetuated in the well-known inscription on the wall of the cathedral itself—"Si monumentum requiris, circumspecte."

In their Special Hospital Number of "Berger's Mercury," issued by Messrs. Lewis Berger and Sons, Ltd., Homerton, E.9, Mr. H. Kemp Prossor gives a more complete exposition of his theory of curative colour, which we illustrated in our "New Year Number" of January 9 last, than has yet appeared. It is well worth reading, for our own experience confirms all Mr. Kemp Prossor says, not only as regards the good resulting in connection with hospitals, but as regards the influence of colour on the health of children, the protective benefit of suitable colour in dress, and in furniture, and the advantage on the stage of expressing in colour vibrations the personality of the play. It is well to note that there are three ways by which people receive colour vibrations—consciously, sub-consciously, and unconsciously. In this lies the danger of people rushing into colour without having studied it. "What," asks Mr. Prossor, "would you think of a doctor who prescribed for a patient without any knowledge of medicine. Yet we take colour medicine from people who often

could not give you a reason for prescribing it." That is true enough, and the "medicine," like that of the quack, is often poison!

Many architects and builders who are using Bell's corrugated asbestos cement sheets (Poirote brand) with advantage will be glad to note some useful directions which the firm is now issuing. The sheets are ordinarily made in lengths up to 8 ft.; if specially required, up to 10 ft. The standard width is 3 ft. 7 5/16 in.; reputed thickness, ¼ inch; number of corrugations, 16½; pitch of corrugations, 2 5/8 in.; horizontal lap, 6 in. for roofs of ordinary pitch, say 30° or over; side lap, 4 in. (1½ corrugations); actual cover of an 8 ft. sheet is 7 ft. 6 in. by 3 ft. 3 5/16 in., or, say, 24½ square feet; number of 8 ft. sheets per square, 4.07; centres of angle iron or wood purlins, 3 ft. 9 in.; weight per square of roofing about 330 lb. Suggested sizes of angle iron or wood purlins:—Centres of principal rafters are 6 ft., 10 ft., 12 ft., 14 ft., 16 ft. For angle iron purlins, 2 in. by 2 in. by ¼ in., 2½ in. by 2½ in. by ¼ in., 2½ in. by 2½ in. by ⅜ in., 3 ft. by 3 ft. by 5-16 in., 3 ft. by 3 ft. by ⅜ in. For wood purlins, 4 in. by 3 in., 5 in. by 3 in., 6 in. by 3 in., 7 in. by 3 in., 8 in. by 3 in. Some useful details of fixing sheets to iron or wood-framed roofs are given as follows:—Iron roofs.—Galvanised iron hook bolts, ¼ in. diameter, with nuts and limpet washers. Wood roofs.—3 in. by ¼ in. galvanised iron wood screws and limpet washers. Six hook bolts or screws are required for each sheet. It should be noted that holes in the sheets to take bolts or screws should be drilled, and must on no account be made with a slater's pick, and any cutting required must be done with a hack saw or a hand saw. It is usual for the manufacturers to mitre the sheets before sending them out from the factory, but alternatively this work can be done on the site. The side lap should invariably be 4 in. (or 1½ corrugations), and the horizontal lap 6 in. The sheets should be laid so that the vertical laps are in straight lines from eaves to ridge, and this is accomplished by mitring the top left-hand corner of the lower course into the right-hand bottom corner of the course above. This arrangement applies only when the sheets are laid left to right on the roof, but if this is reversed, the mitres must be cut on the opposite sides to those stated above. This method does away with the necessity for cutting off various widths of verge sheets, as is the case if the vertical laps are fixed to break joints. When the sheets are mitred at the factory they are always cut for laying from left to right unless otherwise ordered. Special sheets for eaves and top courses (single-mitred) can be provided to meet customers' requirements. In the case of roofs of buildings placed on exposed sites, or where the pitch of the roof is low, the joints may be bedded or pointed with Bell's Bestac Composition. "Bestac" is also suitable for application to the joints on roofs which are required to be wind tight. Attention to these details will ensure complete satisfaction to all users of this excel-

lent roofing material, and guarantee good work, and durability in the highest degree.

We do not know who Mr. Willis Polk, of San Francisco, is, but we can, at any rate, congratulate our American friends on the evolution of a type of which we thought we had a British monopoly in hygone days in Mr. Ayrton! Mr. Willis Polk of San Francisco's mission is to prevent the execution of the accepted design for the proposed California State Building. Mr. Polk, always aggressive, has addressed a letter to the Chief Justice of the Supreme Court of California, from which we pick a choice bit or two:—

"The State Building controversy seems to be an architects' row—a row that had its inception in the days of Rameses—that will probably continue to rage five thousand years hence. It is a row over the advisability of accepting classic standards rather than charming unconventionalities. The architectural members of the jury that passed upon the design for the State Building were divided—one was for classic orderliness; two were for charming dissimilarities. Unconventionality won; orderly observance of classic rules lost. Now, the State Administration, upon whom the responsibility is by law imposed, is naturally in a quandary—they have no desire to spoil our Civic Centre by the construction of a building that will not harmonise with existing buildings. As a matter of fact, they are probably more than anxious that no mistake shall be made; but the mills of the gods grind slowly. Ideals in art are established by the evolution of community spirit and thought. Such evolution always results in so-called 'classic standards.' Such classic standards in architecture have resulted in buildings, groups of buildings, and places that receive universal admiration. As well decree a classic standard in architecture as to decree classic music; as well substitute ragtime or a jazz band for grand opera; as well substitute poems in slang for classic literature; as well substitute 'Jimmy Fadden' for Shakespeare; as well substitute Bolshevism for law and order; as well substitute unauthorised tribunals for established courts.

"If, my dear Mr. Angelotti, you rely in any way upon my judgment, will you not communicate the foregoing to your associates?"

Mr. Peter Buchanan, landscape painter, who was one of the founders of Glasgow Art Club over fifty years ago, has died at Brighton at the age of 73.

Mr. W. H. Schofield, county surveyor and bridgmaster of Lancashire, has had his salary increased from £800 to £1,000 per annum, with a further increase of £200 in 1919.

Mr. Henry Daniel Blak has been elected the Master of the Paviers' Company; Mr. Cuthbert Wilkinson, C.C., L.C.C., the Upper Warden; and Mr. William Nash, the Renter Warden. Mr. John Purdy has been elected to the Court, and Mr. Walter Ernest King admitted to the Freedom and Livery.

The Lambeth Borough Council accepted with regret last Thursday the resignation of Mr. H. C. J. Edward, the borough engineer, due to ill-health, after 33 years' service. Mr. H. E. Anderson, the deputy engineer, was appointed acting borough engineer at a salary of £500 per annum till permanent arrangements are made.

THE LOCAL GOVERNMENT BOARD AND R.I.B.A. HOUSING COM- PETITION.

NORTHERN AREA.

Two hundred and forty designs emanating from 101 competitors were on exhibition to the public in the rooms of the Northern Architectural Association at Newcastle-upon-Tyne during the week ending February 23. The authors hailed from places as far apart as London and Aberdeen. Only one lady entered the lists, and she collaborated with a "mere man," the result not being encouraging. The district comprised in the Northern Area embraced Northumberland, Cumberland, Durham, Yorkshire, and parts of Derby, Notts, and Lincolnshire. Speaking generally, the designs seem more suitable for rural or semi-rural neighbourhoods than for large towns and their immediate environs. This was to be expected considering the wide latitude as to site conditions given in the particulars furnished to competitors, but we confess we would like to have seen a class allocated to "intra-mural" dwellings, a problem well worthy of attack. The assessors representing the four societies allied with the R.I.B.A. which invited the designs were Messrs. R. Burns Dick (Newcastle), W. H. Thorp (Leeds), J. R. Wigfull (Sheffield), and L. Kitchen (Hull). They had no easy task before them, but they performed it with expedition and acumen, and although during our inspection of the drawings we heard *sotto voce* criticisms of the selected designs from interested groups discussing them, we fancy that few except disappointed competitors and chronic hyper-critics will seriously cavil at the awards. The possible permutations and combinations of the stipulated items of accommodation are not unlimited, and not a few designs bear a close resemblance to others in the disposition of their component parts. Finality of perfection has certainly not been reached in any one case. On the whole one is led to think that theories rather than practical ideas have largely influenced the minds of promoters, judges, and the majority of the competitors. For instance, to those acquainted with the habits, manners, and custom of the miners living in the colliery villages of the North of England and of the artisans and labourers inhabiting the busy towns there, it appears doubtful whether water-closets connected with the interior of the dwelling would prove to be an unmixed blessing; also whether a scullery would receive the approbation of the mistress of the house in which space could not be found for the post-tub and wringing-machine. One only of the premiated competitors appears to have emphasised the latter point. Many unsuccessful authors have preferred to give external access to the W.C.s and to cut them off from air-connection with the rest of the dwelling, but all those premiated have adopted the other alternative. A coal-house accessible under cover was recommended by the conditions, but the attempted solution of this requirement adopted by many competitors is not cleanly, as small coal and dust is readily trodden into the rooms and passages, besides it usually involves the carrying or wheeling in of coals instead of allowing them to be shovelled into the stove direct from the cart. The gaseous emanations from some kinds of coal are also liable to pervade the house to an unpleasant degree. In many of the larders the absolute necessity for direct light and ventilation through an outer wall, and the detriment of proximity to the scullery boiler, have been ignored.

The premiums have been awarded as follows:—

Class A.—1st (£100) to I. Hervy Rutherford, of York.

Class A.—2nd (£50) to Alexander Inglis, of Hawick.

Class B.—1st (£100) to Alexander T. Scott, of Huddersfield.

Class B.—2nd (£50) to Knowles, Oliver and Leeson, of Newcastle-upon-Tyne.

Class C.—1st (£100) to Knowles, Oliver and Leeson, of Newcastle-upon-Tyne.

Class C.—2nd (£50) to Alexander T. Scott, of Huddersfield.

Class D.—1st (£50) to F. R. Dunkerley, of Altrincham, Cheshire.

Class D.—2nd (£30) to R. E. Hastwell, of Haltwhistle, Northumberland.

Time and space forbid us to enlarge upon the merits and demerits of the various designs but a few brief notes on the premiated ones may prove useful, particularly if the drawings should be reproduced and published. The following tabular statement of the cubical contents exhibits the limits of variation within which expert planning has compressed the accommodation defined:—

	End House.	Narrow House.	Wide House.
Class A 1st	9,301 ..	9,325 ..	8,968
" A 2nd	9,930 ..	9,600 ..	9,745
" B 1st	12,302 ..	11,358 ..	11,340
" B 2nd	12,100 ..	11,090 ..	11,506
" C 1st	10,489 ..	10,606 ..	10,648
" C 2nd	10,044 ..	9,720 ..	9,396
" D 1st	13,158 (each house)		
" D 2nd	13,250 ..	—	13,090

Class A, 1st.—The remarks already made about W.C.s and those about the storage of coal apply to this design. The upper part of stairs in "narrow" house is unlighted unless top light be intended.

Class A, 2nd.—There are excrescences behind for the larders of "end" and "narrow" houses, and in front for the stairs of "wide" houses. The W.C.s and coal houses have the disadvantages already mentioned but in the wide house those of the coal house could be easily remedied.

Class B.—Both premiated designs place the W.C.s and bath-rooms upstairs. The 1st premiated design makes its parlour accessible only through the living room in the case of the "narrow" house, and in the same house the light and ventilation to larder is borrowed through the entrance lobby. In the other two houses the larder is adjacent to the scullery boiler. The coals are stored under the stairs of the "narrow" and "wide" houses. The 2nd premiated design has the staircases of "wide" and "narrow" houses lighted from the top or by borrowed lights.

Class C.—In this class, also, both premiated designs have the W.C.s and bath-rooms upstairs. The 1st premiated design is weak in the lighting of the upper part of staircases which is either absent or intended to be from the top. The 2nd premiated design, which is by the same author as the first premiated design in Class B, embodies disabilities similar to it with regard to larders and coal storage.

In all cases the elevations partake of a similar general character and show that in that direction there is nothing new under the sun to be expected.

Class D, 1st.—This is a very compact plan for a semi-detached pair of houses, comprised within a rectangle of 52 ft. frontage by 31 ft. deep. Each house has a large attic in that part of the roof space adjacent to its neighbour. The roof is hipped at ends. There are two bedrooms on ground floor. No parlour is provided. The flues are in the internal walls and well grouped together, so that

there is only one chimney stack to each house. There is a pleasing sense of proportion about the elevation, which is of the simplest character.

Class D, 2nd.—The plan is adaptable for a continuous row of houses. The end house has only one non-essential window in the return wall. One of the two bedrooms on ground floor is without a fireplace. A parlour is provided. There is an attic and boxroom in the roof space. The block is 26½ ft. deep, and the frontage of the houses is 33½ ft. plus the extra thickness of external side wall of end house. The only excrescence from the rectangular outline is for the coal-houses. The elevation has some features of dubious economy.

As Newcastle cannot be deemed centrally situated in the northern area, we venture to suggest the desirability of exhibiting the whole of the designs, or a selection from them, in two or three other towns within the extensive tract of country ostensibly catered for in this competition.

SUGGESTIONS TOWARDS AN APPRECIATION OF THE PICTURESQUE CONSIDERED IN RELATION TO SOCIAL CONDITIONS AND ENVIRONMENT.*

By MAURICE B. ADAMS, F.R.I.B.A.

(Continued from page 156.)

In order to realise in some degree the atmosphere, so to speak, of the fourteenth century, allow me to give an inventory of a specimen house of the better class of craftsman within the walls of the metropolis in 1337. My particulars are extracted from a legal indenture concerning Hugh de Bevere, who was murdered that year. The house which he occupied comprised two apartments, one above the other. The lower room had a door opening on to the street, and served as a kitchen or keeping room. It had a chimney and a fireplace. Light was obtained by one window, the upper part only being glazed and a shutter closed up the remainder. At the back of the premises stood the buttery. Access to the upper room or solar was obtained by a ladder through a space left open in the floor. The house was all of wood, but in accordance with the city regulations the party walls were of stone. This sleeping room contained a bed with mattress on it and three feather beds, also two pillows. A big chest or coffer stood against the wall and stored with six blankets and one serge or coverlet with shields of sendal, a kind of thin silk, eight linen sheets, and four tablecloths. Alice de Bevere, the newly-made wife and so soon a widow, looked with justified pride on the contents of her press. No glass mirrors, pictures, forks, no pins, and no writing paper; also no soap, for that was little used. Only wealthy people could hang their walls with tapestry, and so in this craftsman's house the daubed framings were exposed to view. The humbler dwellings had beds formed of a heap of straw upon which a whitel, or blanket, was spread. The floors were of earth and strewn with rushes or reeds. It is easy to imagine the condition of such flooring, to which further reference will occur.

The fragile wattle framings of the walls made of "raddle and dab" enabled thieves to gain an easy entry; hence the term "house breaking" survives. In the West of England "cob" is the dialect name of mud walling which dates from Babylonia, thousands of years ago. The Ancients ornamented their mud buildings with stone pins pressed into the clay in quite beautiful patterns, and you will notice how admirably the rounded formations suited the material, as shown by the sketch of the walls of Warka, in Chaldea.

Cob cottages were both cheap and warm as well as durable. Road-sweepings were employed in layers intermixed with the clay, or straw at times was worked in to give it

* Paper read before the Royal Society of Arts on February 20, 1918.

a bond similarly as in sunburnt bricks. In London in 1389 clay was thus used, but the material cracks sufficiently to harbour bugs and pests.

During Elizabeth's reign, stone rubble foundations were used for cob cottages and thatch covered the roofs as at the present day. Chalk mixed with clay will be found in cottages about Devonshire, and chalk built up in brick courses occurs in Wiltshire about the district of the great White Horse. In half-timber framed houses the wood muntins and plates projected in front of the stucco panels at first, but when, for cheapness sake, the timber was wider spaced the plastering was finished flush. This facilitated rot, and when the work began to perish the framings were rough casted all over or hung with tiles and weather boarding. Stucco is a splendid material for lasting, and is easily ornamented with fine effect. The rough timberings left exposed inside of framed houses were covered by tapestry in the dwellings of the rich as already mentioned, but in manor houses the plastered panels were sometimes papered over, and in evidence of this I give a slide from Borden Hall, Kent, with two patterns of paper fixed up with flat-headed nails and dating from 1600 to 1650. The walls in this room were battened over, and so these papers were hidden up for, say two hundred years. Not very long ago the building was restored, and on removing the battens and plaster partitions fragments of these early wall papers were found. The designs were reconstructed from these fragments by Mr. Lindsay Butterfield, and are most interesting. These old papers were printed from small blocks as used for cotton-printing. The ornament, rather Indian in style, was in black on a vermilion ground picked out in bright turquoise blue. It was not till the eighteenth century that paper-hangings came into general use. Originally they were made in small squares, very difficult to match when fixing the paper with nails.

William Morris was the pioneer who first improved wall-papers, and he copied his charming schemes from "Gerarde's Herbal," wherein the flowers are drawn out like pressed specimens of plant forms. His sole exception to these conventional shapes was a fruity fancy for pomegranates spread bluntnessfully over everything in a gorgeous glamour of mediævalism.

Stone houses do not appear to have proved much more durable than those built of other materials, though we see more of them as they were in the aggregate more numerous. After the Reformation, when agriculture lost the support of the denuded church holdings and ruined monasteries, a great many dwellings of all sorts fell into a bad way and perished. The development of roads led to stone wallings being used as quarries for making highways. Built of unjointed rubble mostly, the work was easily pulled down. If you examine this old masonry you will observe that the old builders in a natural way put the bigger blocks at the base, and gradually diminished the sizes till the top courses were reached, the quoins and jamb stones to the openings being random-shaped tailed into the rubble. All this simple contrivance gave much picturesqueness, and in the thirteenth century a sense of scale obtained by employing small blocks of stone with countless wide joints then the rule. When, however, Gothic work ran to seed, two centuries later, big stones and fine joints diminished interest, and the effect of proportion was lost. Stone slabs and slates for covering roofs were also laid in diminishing courses from eaves to ridge.

Mortar of mud remained in common use till the beginning of the nineteenth century, when lime mortar for better-class construction prevailed. Wide mortar joints garnetted with flint chips, after the manner already spoken of in Chaldea, can be seen in various old hamlets, as in Surrey villages. The origin of brickwork in England is obscure. Roman red tiles were often re-used by the Saxons in their masonry, which had a very foreign look with its straight arches, "long and short work" angle stones and pilasters, as at Sompting Church in Sussex. Two very early instances of distinctive brickwork are Caister Castle and Little Wenham Hall in Suffolk, but probably the bricks came from abroad.

Sussex vernacular brick quoins to flint wallings make a countryfied and suitable job. Snapped flint and flint rubble made most durable and beautiful walls, specially in East Anglia, where it was rich. Colleges, churches, and houses had earth floors, as already alluded to. These floors freely absorbed nitrous matter, and not infrequently bones were hammered in to add geometric patterns, and also to harden the surface. This practice lasted till the end of Queen Anne's reign. For many years prior to that officials, called "saltpetre men," invaded buildings to dig up the earth floors in order to obtain nitre for making gunpowder. In 1561 the Queen concluded an agreement with a German named Gerard Howick, who carried out this saltpetre trade, and refined the earth taken from the floors of cowsheds, stables, and country houses. These proceedings naturally occasioned much friction during the sixteenth and seventeenth centuries, for people resented such visitations. Bullock's blood at this time was used mixed with the earth to harden the surface of mud flooring, take a polish, and prevent dust. Soot mixed with blood also served as a paint for colouring the inside timbering of dwellings. The first joist and wooden framed floors were used in Norman castles with cross-beams, from whence developed the familiar practice of oversailing the upper stories of domestic buildings. Thick planks and solid wood stair-treads were at first the rule, but as timber got scarcer thin boards and built-up stairs came in. Ordinary dwellings prior to the fifteenth century were seldom built more than two floors high. Staircases were rare; consequently the commonality clambered up to bed by way of ladders or by means of pegs projecting from a central post, and these pegs gave a hold for feet and hands. With the exception of Brixworth and Brigstock churches in Northamptonshire, no Saxon belfries had stairs. Where turrets occur and spiral stairs are attached to these old towers they are of later date. Staircases in the seventeenth century yeoman's house and farmstead dwellings were often contrived in an awkward fashion, mostly cramped in by the side of recessed open fireplaces, and unequally built with odd-shaped winders and pinched in quarter landings set around the flue, which also, quite likely, was an addition. The floors varied a good deal, and now and again very little headroom was allowed. Four-post beds with heavy hangings were a necessity to keep out the wind, for these rooms were very draughty, though distinctly picturesque. Straight stairways sometimes were put under pents outside and considered sufficient, for our ancestors lived most times very much out of doors. A delightfully quaint outside stair is exhibited from Denham. The monks performed their toilet in open cloisters or under lean-to roofs. In Jacobean days dog-legged staircases in short flights, with massive newels and quarter spaces or half landings, furnished the favourite method in better-class houses. They were fitted with dog-guard gates at their base, and some very interesting examples can be seen all over the country. Hatfield as seen in my photograph has a gate of this kind showing a rich gate to keep dogs from going upstairs. In historic houses stairs were very narrow and low, so big pieces of furniture were reckoned as belonging to the premises and formed part of the tenancy. No doubt it must have been very difficult to engineer coffins down most of these old, quaint staircases.

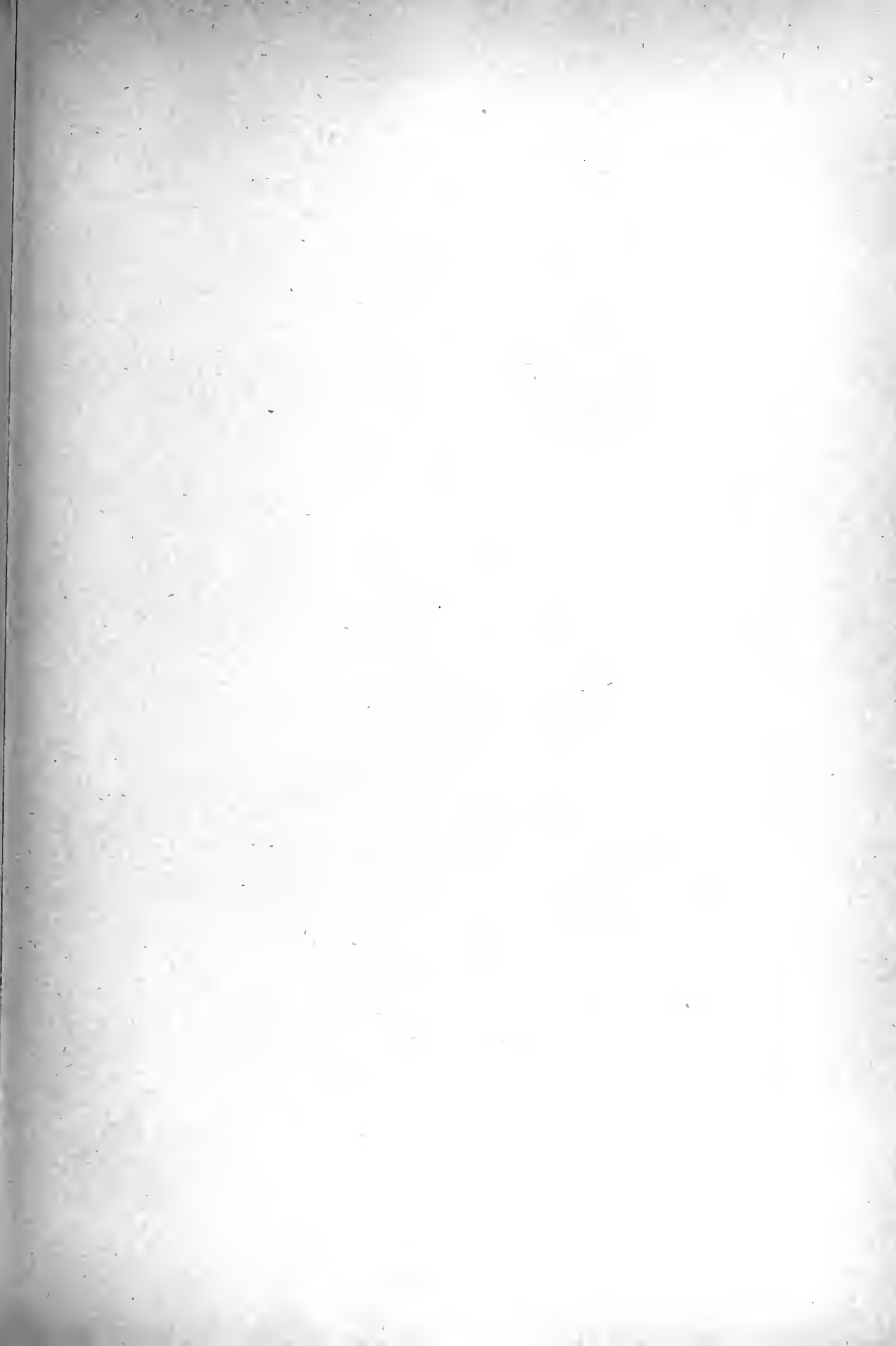
The introduction of fireplaces was a revolution. For ages the smoke from smouldering embers of peat or wood was left to filter through the thatch of the roof or escape, if it could, under the eaves or get away through the gable hole which was provided as a vent fitted with a stone slab worked on a vertical pivot to shut up in bad weather. The lingering smoke thus oozed out gradually and deodorised the interiors, which anyhow could scarcely have been sweet-smelling remembering their earth floors impregnated with animal matter and teanted by vermin. In England sweet herbs were scattered over the floors of old churches and houses, but at best

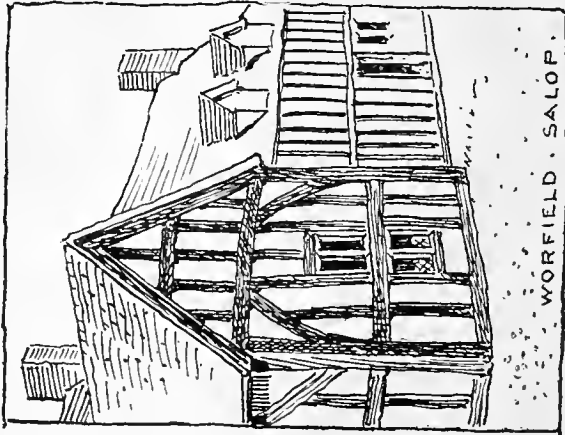
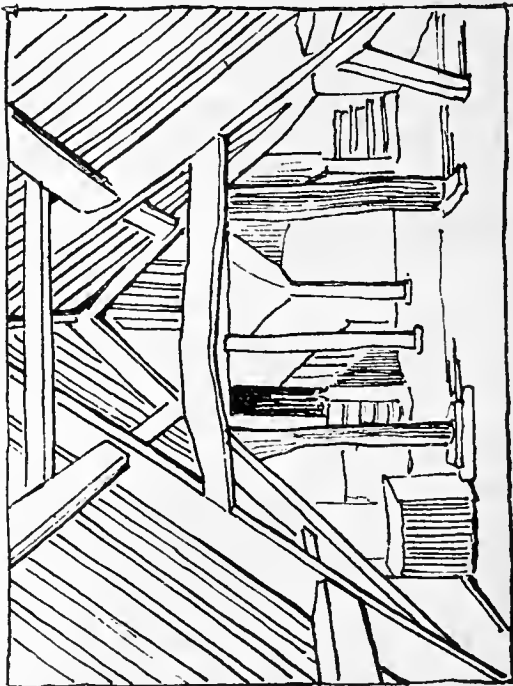
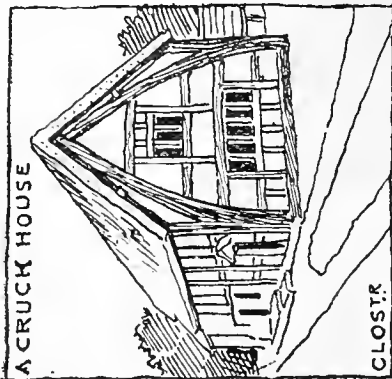
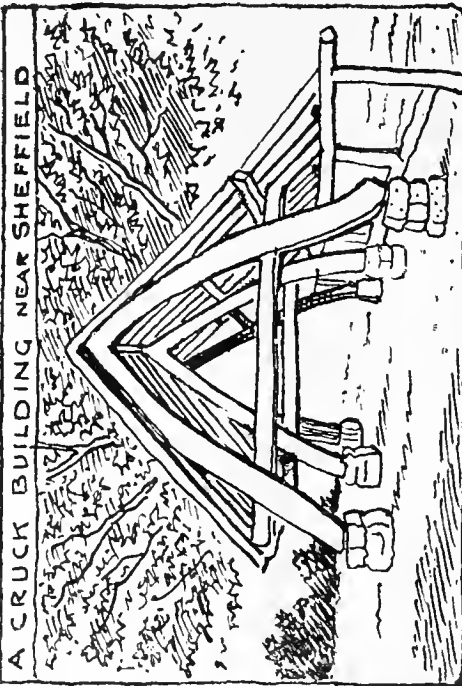
could have afforded only a temporary disguise to more pungent odours. Chimneys were gradually built to old houses, but even so palatial a mansion as Penshurst Place, Kent, still retains its brazier set in the centre of its magnificent hall floor. The smoke has to get away through the louvres of the open-timbered roof big turret. The great octagonal kitchen at Glastonbury, with its four fireplaces, is similarly provided with a smoke outlet. Such picturesque discomforts do not seem to have troubled our forefathers, who survived many disagreeable inconveniences. Chimneys greatly modified the style of house-planning, and stately ideas, suggesting balance of parts, owe much to their introduction. Interiors gained by the importance accorded to the chimney-piece, and each generation almost added to their display and comfort. Stuff parlours culminated in the familiar upholstering of early Victorian frousy furniture. Chimneys in Tudor days grew to be highly-ornamental, grouped together in a dignified way, diversified with weatherings and set-offs, often foliated or carved into diapered patterns. Parapets, as well as corbelled bay windows and chimney corner projections made also highly-pleasing features, but, generally speaking, these belonged to more ambitious residences, with their oriels, colonnaded verandahs, porticoes, alcoves, and garden pavilions. Cottages had wide, oversailing eaves as the chief opportunity for effect with a deep shadow between the roofing and the walls. This is of essential value because it emphasises the horizontal lines which must prevail in elementary forms of domestic architecture. The overhanging of upper floors, which always look so picturesque, also kept the walling below very dry and gave a needed shelter. Small buildings, to be effective, ought to be handled as the old ones were in a big way, avoiding vertical lines because they cut up broad composition. The heavy eaves, on the other hand, give the effect of size and serve the practical purpose of throwing the roof water away from the walling. Guttering, even in town houses, was scarcely ever used. Dormers were uncommon and were rarely needed, because garrets belonged to larger roofs, and thatch dormer work is not easily done. In the Middle Ages thatch had to be lime-washed according to law as regarding fire and germination of thatch fleas. The methods adopted to weight down and firmly fix the thatch added greatly to its delightful appearance.

Doorways in many places were low and small, being made primarily with a view to defence more than convenience. At Ecclesfield, in Yorkshire, the bedroom doors are only 2 ft. 6 in. high by 18 in. wide, a single plank serving as the door. Often enough in Stuart times the doors scaled no more than 4 ft. 6 in. high. The "heck" or "hatch" door, made in two heights, hung to open outwards independently of each other, were quite common, and the top half was of open lattice to admit light because windows were not often provided in the older cottages. The mullioned windows of the thirteenth-century dwellings were fitted with running shutters in superior cases. Lead came followed only when glass became available. Oiled canvas served in the absence of glass, and the Chapter House windows of Westminster Abbey, as late as 1253, were treated in this manner, which admitted little light. Sash windows became the vogue in the time of the Commonwealth, but to save expense many were not made to open, and later on sham windows to insure a uniform integrity of fenestration were adopted. This had the sanction of Sir Christopher Wren, as in his grand additions and Fountain Court at Hampton Court erected for William of Orange. The window tax shut up a vast number, and to this day the industrial classes have a decided objection to fresh air even in garden cities. There was no water supply in old-time houses other than wells and baths, as fixtures belong to our own day. When Grosvenor Square was built few of the big mansions had proper bathrooms.

(To be continued.)

Mr. George Drewett, who has held the position of surveyor of Calne for 34 years, has tendered his resignation owing to ill-health.

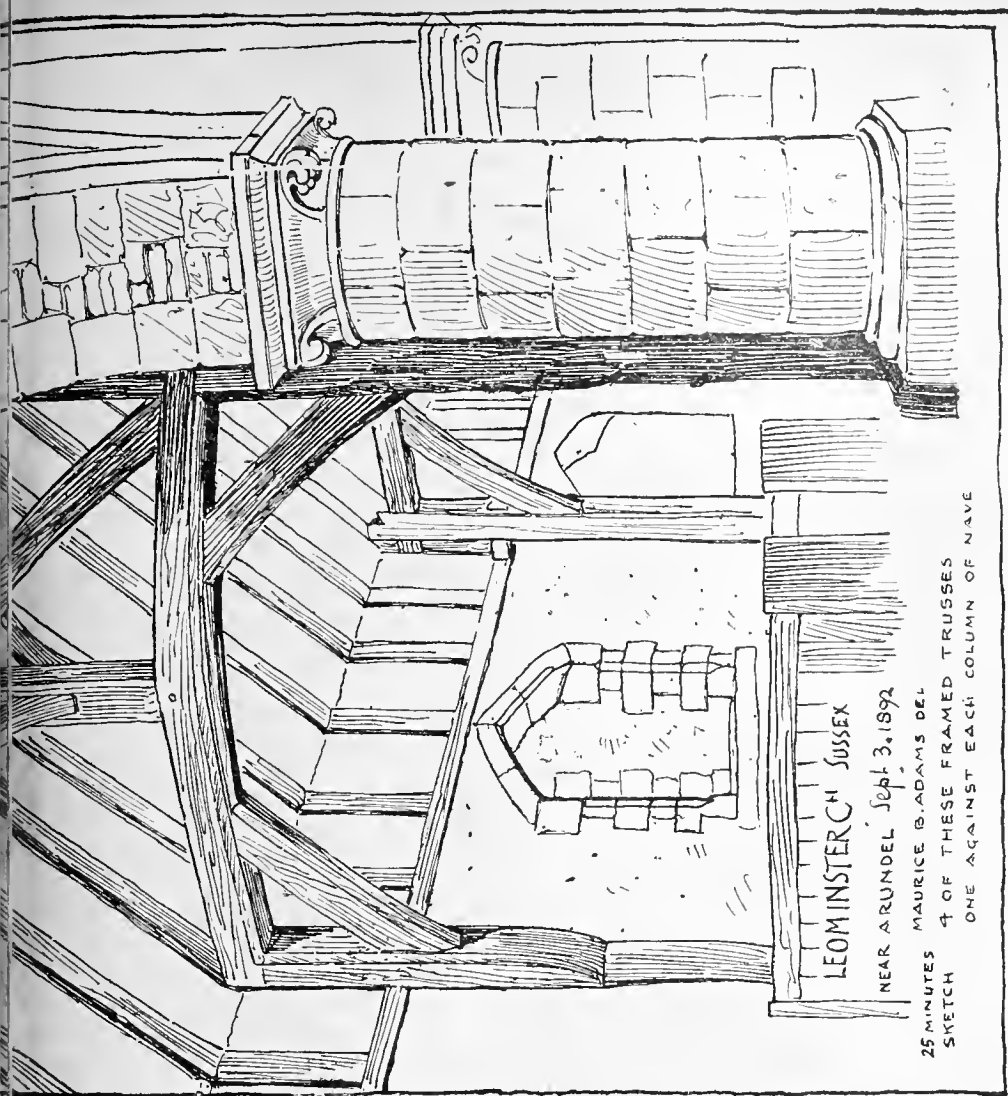
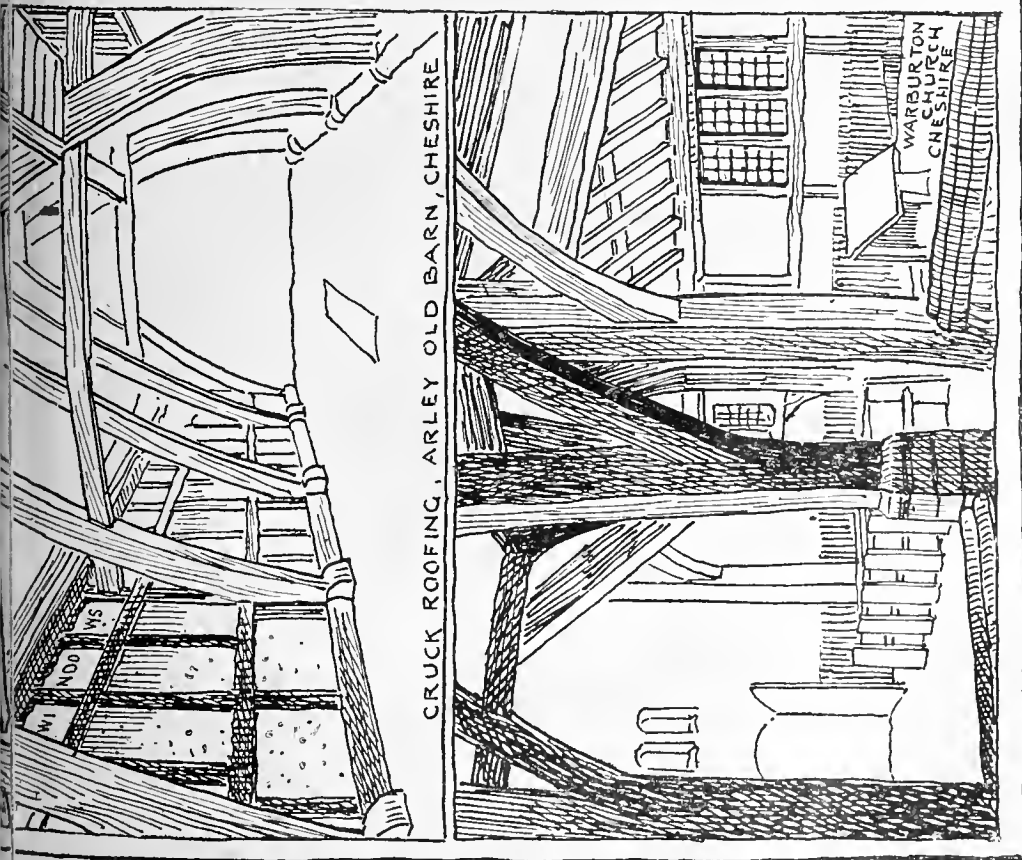




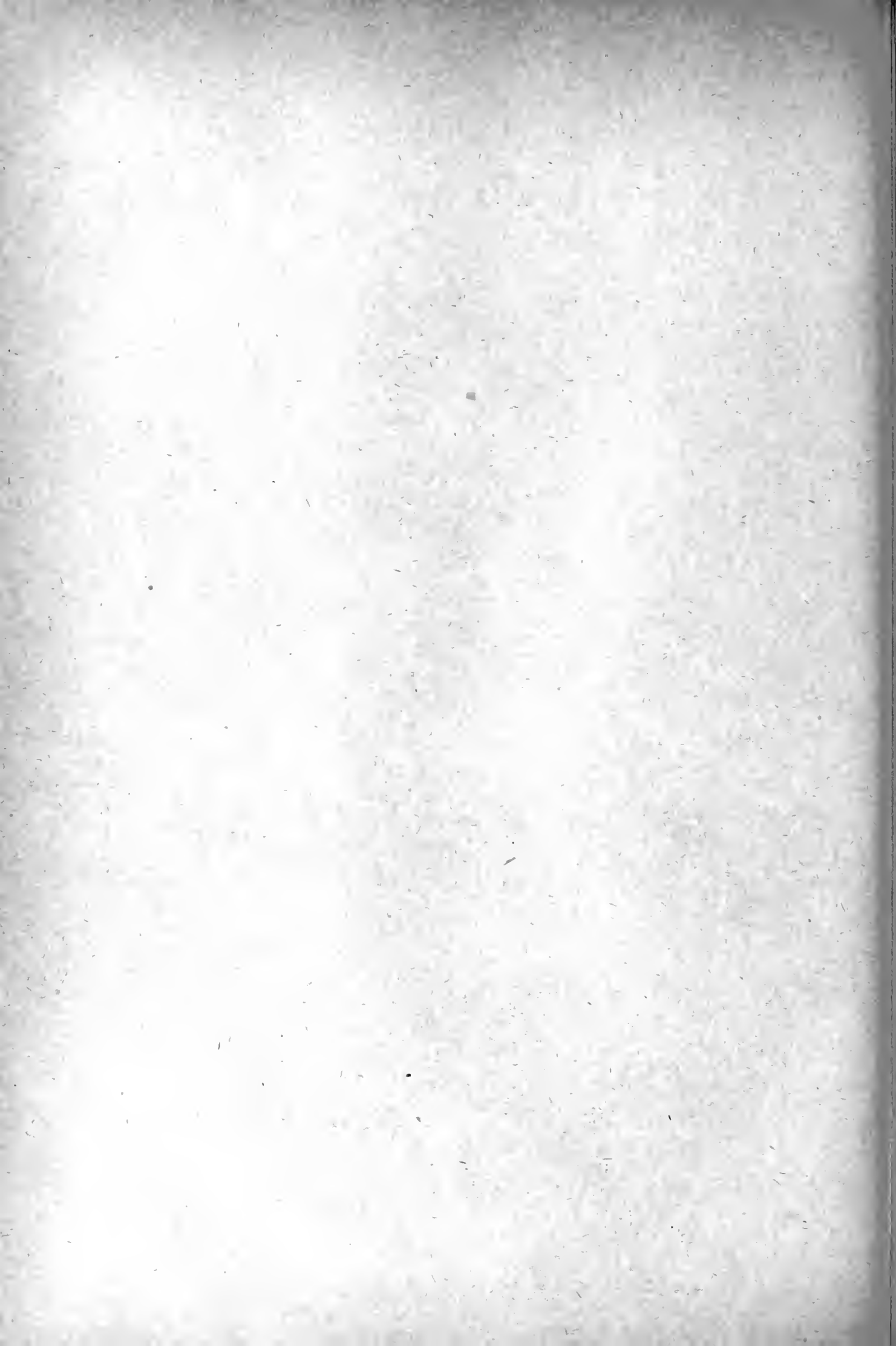
A BEDROOM BORDEN HALL WHERE DESIGN A PAPER WAS FOUND



OLD WALL PAPERS DESIGNS BORDEN HALL, NEAR SITTINGBOURNE, KENT. 1898 MADE PROBABLY ABOUT 1650 RESTORED FROM FRAGMENTS BY LINDSAY P. BUTTERFIELD: PAPER NAILED TO WALLS

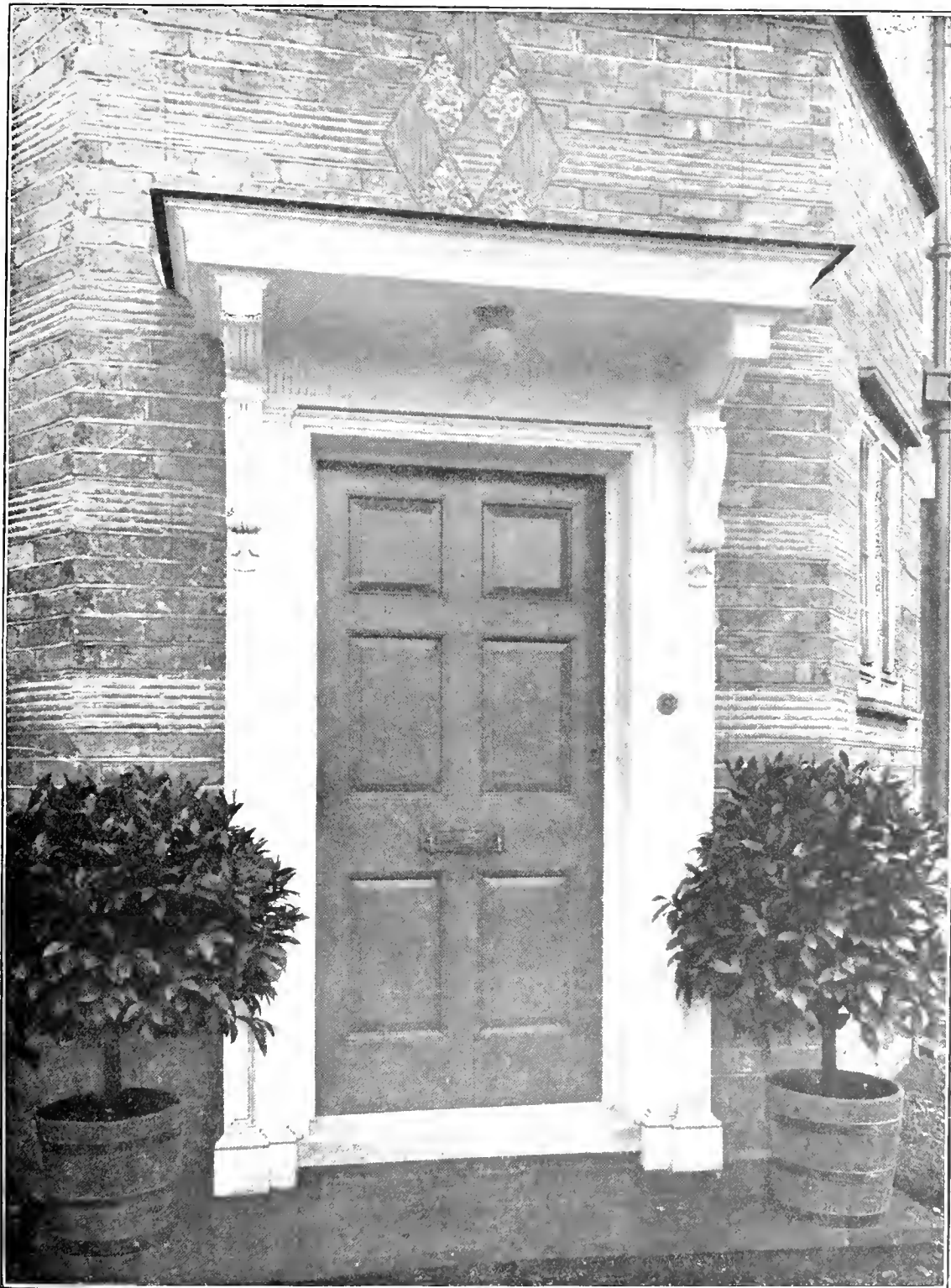


SKETCHES AND SLIDES ILLUSTRATING LECTURE AT THE ROYAL SOCIETY OF ARTS.
 "SUGGESTIONS TOWARDS AN APPRECIATION OF THE PICTURESQUE CONSIDERED IN RELATION TO SOCIAL CONDITIONS AND ENVIRONMENT."
 By MAURICE B. ADAMS, F.R.I.B.A.





LONDON COUNTY COUNCIL'S BETTER HOUSING FOR THE WORKING CLASSES.
THE BOURNE HALL ESTATE, CLERKENWELL, E.C.
Mr. W. E. RILEY, F.R.I.B.A., Superintending Architect, L.C.C.



French and Co., Photo.]

FRONT ENTRANCE, "TORWOOD," PURLEY, SURREY.
MR. SYDNEY J. TACHELL, F.R.I.B.A., ARCHITECT.



LONDON COUNTY COUNCIL'S BETTER HOUSING FOR THE WORKING CLASS
Mr. W. E. RILEY, F.R.I.A.



NG CLASSES : THE BOURNE HALL ESTATE, CLERKENWELL, E.C.
Supentending Architect, L.C.C.



Our Illustrations.

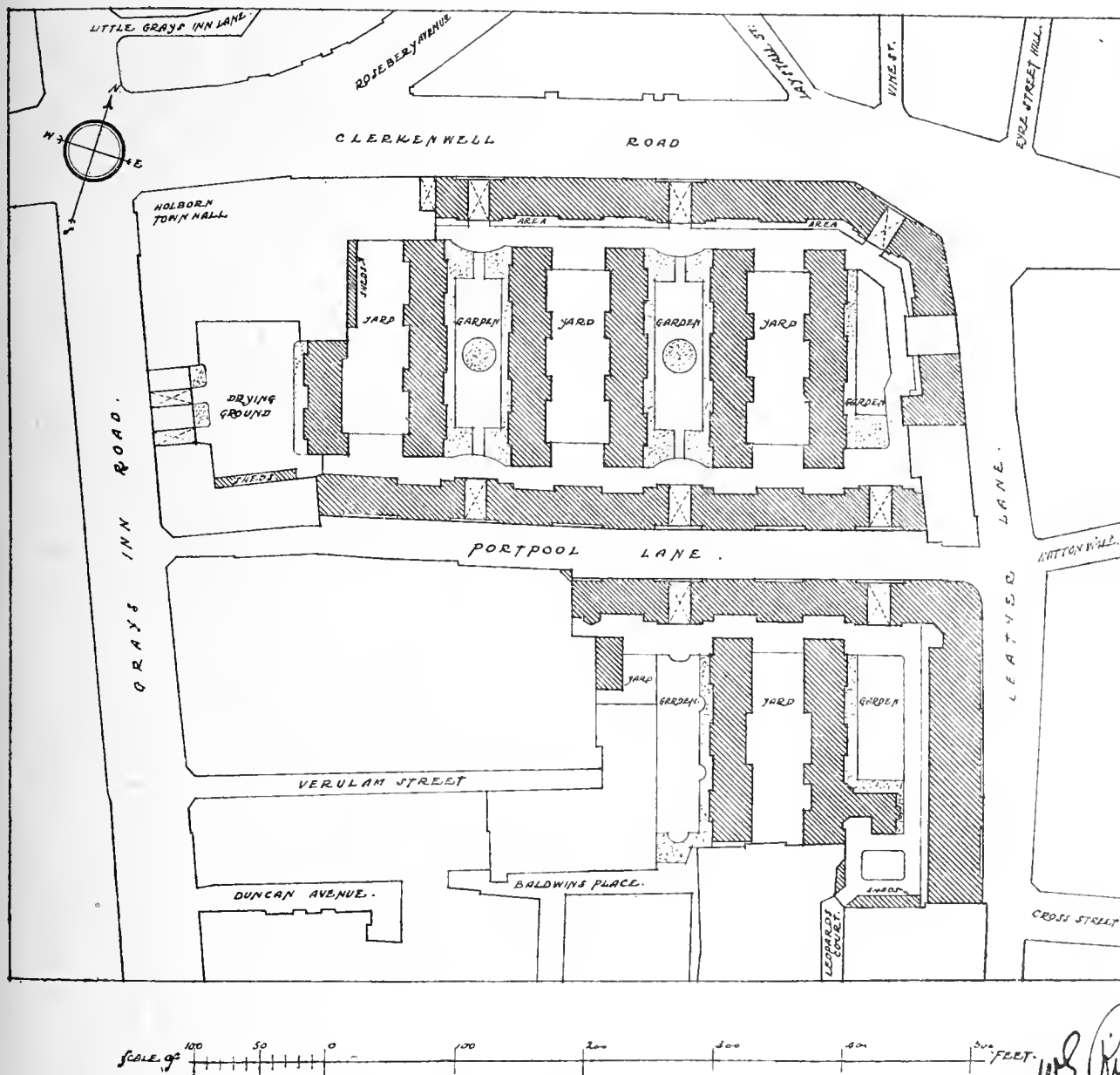
THE LONDON COUNTY COUNCIL'S BETTER HOUSING FOR THE WORKING CLASSES.*

THE BOURNE HALL ESTATE, CLERKENWELL ROAD.

In our last five issues dealing with the work of the London County Council we have described and illustrated its estates at Old Oak, Hammersmith; Norbury, Croydon; White Hart Lane, Tottenham; and Tottenham Fields, Tooting. In this issue will be found illustrations and a site plan of one of

Russell Court, Drury Lane. Further land, however, was needed, and discovering that Messrs. Reid and Co., whose brewery was situated in Clerkenwell Road, were about to remove their business, the Council in June, 1899, agreed to purchase the site. The total area acquired was $4\frac{3}{4}$ acres. The first contract was let in 1901, and the estate was completed by 1908 under seven contracts. The accommodation provided is for the estate office; 65 bicycle sheds, etc., let at 3d. and 4d. per week; 1 five-room tenement let at 12s. per week; 94 four-room tenements at from 10s. 6d. to 15s. per week; 263 three-room tenements at from 9s. to 11s. per week; 375

10s. 4d. The work was designed by Mr. W. E. Riley, F.R.I.B.A., the superintending architect to the Council, and carried out under his supervision. We think the series this number completes will have sufficiently demonstrated that no authority has made more of its opportunities, financially and architecturally, than the London County Council, and hope that in the near future its Housing Committees may be enabled to resume and complete their interrupted work with the same wisdom and energy that have characterised the action of their predecessors, and with the advantage of the zeal and capability the Council has enjoyed in his per-



W.E. Riley
SUPERINTENDING ARCHITECT.

LONDON COUNTY COUNCIL'S BETTER HOUSING FOR THE WORKING CLASSES. THE BOURNE HALL ESTATE, CLERKENWELL, E.C.

the most successful urban tenement blocks erected anywhere, thanks to the ingenuity and skill of the superintending architect. The widening of the Strand and adjacent improvements involved the displacement of 3,700 persons of the working class. The Council in October, 1898, had already purchased from the Duke of Bedford a site in Herbrand Street, Bloomsbury, as well as the sites of those hoary slums Duke's Court and

two-room tenements at from 7s. to 8s. 6d. per week; and 31 one-room tenements at from 4s. 6d. to 6s. per week, making a total letting of 764 lettings, in each case including all rates and taxes. The total accommodation (taking two persons per habitable room of not less than 96 feet super) is for 3,902 persons. The actual population, including children, in March, 1915, was 2,660, or 843.7 persons per acre. The cost was for land £58,550, and on buildings £222,124, making a total of £280,674. The average cost per room, including buildings and plans, was £95 10s., and per foot cube 9.53d. The loss by empties in 1916-1917 was £85 18s. 5d., and the surplus on the year's working £1,036

sistent devotion to what all who have served under him know has been a labour of love by Mr. Riley.

FRONT ENTRANCE, "TORWOOD," PURLEY.

The doorway illustrated forms part of a general remodelling of this house, built some years ago on the South Border, Purley. The walls are built of Sussex stocks and rough hand-made tiles as band courses. The joinery work was executed by Messrs. James Smith and Sons, Ltd., of Norwood, and the general contractor was Mr. J. T. Deakins, of Wallington. The architect was Mr. Sydney Tatchell, F.R.I.B.A., of Westminster.

* This is the last of the series we have been enabled to give by the courtesy of the L.C.C. Housing Committee and Mr. Riley, not the Millbank Estate, which we gave last week. The air raids were really responsible for the transposition of the opening sentences of our description on p. 155 last week.

SKETCHES AND DIAGRAMS OF PICTURESQUE DESIGN.

This double page includes a selection from the slides shown at the Royal Society of Arts on February 20 inst. in connection with the lecture entitled "Suggestions Towards an Appreciation of the Picturesque Considered in Relation to Social Conditions and Environment," by Mr. Maurice B. Adams. An abstract of this lecture, partly given in our last issue and continued to-day on page 16) sufficiently refers to the several subjects comprised in this sheet of drawings. Some of the sketches were based upon data furnished for the purpose by Mr. C. F. Innocent, A.R.I.B.A., who also lent a few of the photographic slides not included in the accompanying illustrations, but used last Wednesday to exemplify the type of "cruck roof-tree" work as described in the lecture. Two or three of these are contained among the illustrations of Mr. Innocent's new book, "The Development of English Building Construction," lately published. This admirable and suggestive treatise is developed from a series of articles which Mr. Innocent contributed to the *BUILDING NEWS* during the years 1912 and 1913. The wall papers shown herewith to-day from Borden Hall, Kent, were discovered hidden behind some timber standing when this manor house was restored some while since. The fragments of these very curious seventeenth century paper patterns were pieced together and drawn out by Mr. Lindsay Butterfield, a nephew of the late Mr. William Butterfield, the distinguished church architect of the Gothic revival period. A sketch is included of the room in which the wall papers were found.

FIRE AND LOAD TESTS OF BUILDING COLUMNS.

Fire tests of building columns, being jointly conducted by the Associated Factory Mutual Fire Insurance Companies, the National Board of Fire Underwriters, and the Federal Bureau of Standards, at Underwriters' Laboratories, are progressing according to schedule, two columns being tested each week. The work of testing began last summer, and will require a year for the completion of the full series of 100 tests. This was preceded by several years' work in designing and erecting the testing apparatus and in preparing and covering the test specimens by the different methods and with the various materials required for a full investigation.

The apparatus used in the tests consists, briefly, of a gas furnace, capable of being controlled according to a specified standard temperature curve, reaching a maximum of 2,300° Fahr. (1,260° Cent.) at the end of an eight-hour test. The load on the columns, while being subjected to fire test, is supplied by means of a hydraulic ram, an average load of 100,000 lbs. being maintained during the test, this being calculated for the various sections according to accepted formulas for working load.

The temperature of the column furnace is measured by means of platinum and base metal thermo-couples, supported in porcelain tubes at two elevations, and that of the columns by means of base metal thermo-couples attached to the metal of the column at four elevations and at different points in the section. The temperature indications are read with a potentiometer indicator and connections are also made to an automatic potentiometer recorder, so that graphic records can be obtained, if desired, of the indications of any set of couples.

The vertical compression and expansion of the columns, due to the load and heat, are measured over a gauge length of 37 inches in the upper half of the column by means of wires attached to the column at each end of the gauge length, the other ends being weighted and passed over an idler at a point outside of the furnace and as far from the column as room conditions will permit. The wires are protected inside and outside of the furnace by suitable insulating and protecting tubes. Readings of vertical movement are taken at intermediate points on the wires by means of microscopes mounted in micrometer slides, the true movement at the column

being calculated from the distance relations of the microscopes and the fixed end of the wire, with reference to the point of attachment to the column. The lateral deflection of the column is measured by means of readings on scales placed perpendicular to and parallel with the wires.

All of the tests are of full-sized columns of 12 ft. 6 ins. effective length and of various steel sections, which are protected by concrete, tile, and other forms of fire-protective coverings. One column of each type is tested unprotected; also several concrete columns reinforced according to methods used in current practice have been introduced.

The tests are continued to a breakdown of the sample. The time required to obtain failure varies with the type of material and thickness of covering, the periods for the columns so far tested ranging from seventeen minutes for the unprotected column to over eight hours for the heavier types of protection.

This is the first work of this character ever undertaken employing modern forms of columns and methods of protection, and it is expected that it will develop data of great interest to city governments, underwriters, manufacturers, architects, and engineers.

Specifications for columns and column coverings have necessarily been made ever since the advent of modern fire-resistive construction, but there has been little or no experimental data as a basis for the various requirements promulgated, which in point of amount of protection required differ by more than 100 per cent. as between various city building codes.

It is also thought that the tests will give much information on the general fire-resistive qualities of the covering materials employed. Differences in point of effectiveness of over 100 per cent. have already been found as between concretes made from different aggregates, some showing up unexpectedly well and others indicating decided unsuitability for use where the fire-resistive feature is a point of importance.—*The Contract Record*.

GERMAN PORTLAND CEMENT.

Director Thiele, of the Portland Cement Works at Hörter-Godelheim, has patented an improvement in furnace grids which is said to be of importance for all cement works using shaft-kilns. The following details have been supplied to the "Frankfurter Zeitung" from technical sources in South Germany:—

The burning of cement in shaft-kilns has undergone very great improvements in recent years. Originally the shaft-kiln could be used only intermittently, as alternating layers of stones formed from ground raw material and coke were burnt and the sintered mass removed after cooling of the kiln, which was then refilled. The Dietsch kiln, in which the kiln is divided into a calcining and a sintering chamber, made continuous working possible. The Schneider kiln attained the same object in a much simpler fashion. An outer zone, in contact with the kiln-lining, contained the raw materials of the cement, and the fuel was let out, whereby the adhesion of the sintering mass of cement was prevented and the uniform descent of the charge on emptying was secured. The waste product, coke breeze, was then mixed with the ground raw materials and the mixture pressed into moulds; and by the application of compressed air (under-grate blower) better sintering is attained, as also improved quality and greater output from the kiln.

The employment of compressed air, which had to be interrupted periodically when the calcined cement was removed by hand labour, led to the discovery of continuous mechanical discharging. In the method patented by Max Grueber there is used in place of the grating a revolving perforated iron cone, on which the sintering mass of cement rests. The cement is steadily broken into small pieces by slow continuous revolution and then sinks down. In the Thiele patent the cement material rests on level perforated iron plates, which replace the grating; they move backwards and forwards and thus break the cement material into small pieces. According to a third patent (the Stehmann patent), the

cement material lies on parallel crushing rollers instead of on a grating, and is broken into small fragments by the rotation of those.

No one of these methods is more economical than another, and experience will prove which is the most satisfactory; much will depend upon the characteristics of the various raw materials.

The mechanical conveyance of the mounded stones into the kiln is greatly affected by the characteristics of the raw materials. The perfected shaft-kiln had great advantages over the revolving kiln so long as the price of the coke used as fuel was moderate. In consequence of the scarcity and increased prices of coal great progress has been made in the use of cheap fuel such as coke breeze. Many gasworks now use this, and the price has increased threefold.

In regard to the quality of the calcined cement the revolving kiln is superior, as in it the supply of fuel can be regulated, and therefore the temperature and degree of sintering is likewise under control; but the process is more expensive than the shaft-kiln process, even with coke at its present price.

Correspondence.

BOLTON-ON-DEARNE HOUSING SCHEME.

To the Editor of THE BUILDING NEWS.

Please correct in your next issue the illustrations of above as follows:—Type 1 should be Type 2, and Type 2 should be Type 1.

Type 3a is, of course, known to me as Type 3 without cellars, having pantry and coal place on ground floor, but I am sorry this is not reproduced, because it appears to be the favourite type with many deputations.—Yours faithfully,

JOHN W. WILSON.

Bolton-on-Deerne Urban District Council, Bolton-on-Deerne, Rotherham, February 20, 1918.

[We regret Type 3a was not given, but our space is so limited just now and its main features were identical with Type 3 we omitted it. The transposition of the titles of Types 1 and 2 was a blunder in our own drawing office, for which we apologise.—Ed., B.N.]

BURNLEY'S BOROUGH ENGINEER.

Sir,—My attention has been directed to an extract from the last issue of your paper. I beg to say that there is no change in the office of borough engineer and surveyor to this borough, the position having been held by me during the past 23 years. You stated that the Burnley Corporation had appointed Mr. R. Taylor, A.M. Inst. C.E., of Burnley, borough engineer and surveyor. I think Mr. Taylor's appointment refers to Haslingden. Will you be kind enough to make the necessary corrections in your next issue.—Yours faithfully,

G. H. PICKLES, Borough Engineer.

Town Hall, Burnley, Feb. 22, 1918.

[With pleasure, and our apologies. The paragraph was taken from a local paper, and we regret the error.—Editor.]

NATIONAL COTTAGE AND HOUSING COMPETITION, S.W. AREA.

Sir,—I notice in the results and criticisms of the above in last week's issue of THE BUILDING NEWS, in which I obtained the first prize, class "C," and the second prize, class "D," you mention my name as W. A. Greenam. I should esteem it a great favour if in your next issue you would correct this to W. A. Greenen, and oblige yours faithfully,

W. A. GREENEN.

126, Bolton Road East, Port Sunlight, Cheshire.

EFFLORESCENCE ON FACE BRICKS.

SIR.—The facts mentioned in one of your recent articles on the above subject are not generally known. Most architects and builders, and even brickmakers, accept efflorescence on the face of brickwork as a neces-

sary evil—as a defect which cannot be remedied.

The salt-like substance which forms on the face of many old (and new) walls is really an exudation of chemical salts, which are sometimes in the brick, sometimes in the mortar, and sometimes in both.

When the bricks are wetted by rain the water dissolves the salts, and as the dampness evaporates from the surface of the bricks it leaves behind it the soluble salts in the form of the well-known white scum, called "efflorescence," or "salting," or "brickwhite."

Bricks which are subject to efflorescence may be tested by soaking them in water and then standing them on end to dry. After the wetting and drying has been repeated a few times the bricks will show the scum if they contain soluble salts.

Sometimes the fault is due to stacking the bricks on ground covered with ashes, or other materials which contain soluble salts. The salt may also be in the mortar, due to the materials used in making the mortar, but this is an infrequent cause of efflorescence.

Many patents have been taken out for the prevention of efflorescence on bricks. Some of the processes provide various substances which are incorporated with the clays before they are burnt, and other patents call for the coating of the outer surfaces of the wall with a film which is brushed on.

A rather technical article was published in a contemporary journal eighteen months ago, in which it was conclusively proved that efflorescence frequently resulted in thin bits of stone or brick being separated from the surface (through the efflorescence), and the author advocated waterproofed cement should be used for bedding all bricks and stone, not only because bricks and stone were liable to efflorescence, but because lime mortar itself produced efflorescence.

Many architects are using a 3 and 1 mixture of Pudloed cement for surface jointing, for when the joints are well flushed and the bricks and stones are covered to a depth of 9 in., each brick is bedded in a vertical and horizontal dampcourse. Thus no rain water can saturate the brickwork, for it cannot penetrate far into the brick or stone. It is the accumulating moisture descending from brick to brick which causes the saturation and therefore the efflorescence. Buildings built with waterproofed cement escape efflorescence, and seldom have damp walls.—Yours faithfully,

J. H. KERNER-GREENWOOD.

King's Lynn.

OBITUARY.

The death has occurred at his residence, 25, Mayfield Road, Gosforth, of Mr. James Bruce, architect. Mr. Bruce was a member of the Northern Architectural Association for a long time, and for some years acted as honorary librarian. Until a few years ago he was in partnership with the late Mr. H. G. Badenoch, the firm being known as Badenoch and Bruce, and they did a great deal of work in the district. Mr. Bruce was 61 years of age, and unmarried. He had not been well for some time, but nearly three weeks ago he attended a meeting of the Northern Architectural Association, and he had been at business until quite recently. The interment was at All Saints' Cemetery, Jesmond, last Friday.

At the London Society's second ordinary general meeting on Friday, March 1, 1918, at 4.30 p.m., in the Hall of the Royal Society of Arts, 18, John Street, Adelphi, W.C.2, Sir Aston Webb, K.C.V.O., C.B., R.A., will give a lecture, illustrated by lantern slides, on "The Future Development and Improvement of London." The Right Hon. Christopher Addison, M.P., M.D., Minister of Reconstruction, will preside.

A stained glass window has been erected in 'All Saints' Church, Thropton, in memory of the late Mr. William Forster, Royal Fusiliers, second son of Mr. and Mrs. Forster, of Burradon, Rothbury, killed in action in France in 1916. The window illustrates St. Paulinus and St. William with a small representation above of our Lady of the Rosary. The window was designed and executed by Atkinson Bros., Newcastle-on-Tyne.

Our Office Table.

Pat was simply a builder's labourer, nothing more, nothing less, but, naturally, he was witty, very. While on a certain job one day he noticed his foreman standing by, seemingly lost in thought, and as Pat didn't relish the idea of doing all the work himself, he asked: "Anything wrong, sor?" "No," replied the foreman, good-naturedly. "I was just thinking. You know, Pat, one man scheming is as good as two working." "Thin, sor," replied Pat, "that being the case, Oi suggest that we both scheme. That'll be as good as four workin'!"

The value of building permits issued in thirty-five Canadian cities, showed a decrease during December as compared with the previous month, the total value of permits falling from \$2,149,223 in November, to \$874,689 in December, a decrease of \$1,274,534, or 59.3 per cent. The only province to record an increase was British Columbia. As compared with the corresponding month of 1916, there was a decrease of 81.6 per cent., the value for December, 1916, being \$4,765,313. In this comparison none of the provinces reported increases. Of the larger cities—Montreal, Toronto, Winnipeg, and Vancouver—the last-named only showed an increase as compared with November, 1917, while each of the centres recorded a decrease in comparison with December, 1916. Of the smaller cities, Three Rivers, Westmount, Brantford, and Kingston showed increases in both cases.

The annual meeting of the Artists' General Benevolent Institution was held last week at the offices in Charles Street, St. James's Square, Mr. W. W. Outless presiding. It was stated that the sum expended in relief last year was £6,534, of which £400 went in payment of 16 annuities. Of 299 who applied for assistance in 1917, 265 received sums varying from £5 to £80. There are 45 children at school in connection with the Artists' Orphan Fund. Sir Edward Poynter was re-elected president and Sir Aston Webb treasurer.

Mr. Stanley Machin, of the Secret Commission and Bribery Prevention League, addressing the Aldwych Club members last week, declared that the whole fabric of Europe was being destroyed by bribery and corruption. Russia, always the great seat and centre of bribery and corruption for generations past, had been destroyed for the time being by it. It had come to his knowledge the previous week that a contractor in this country, who sent in a tender to another country for £25,000, and was told by the representative of the Government concerned that his figures were too high, subsequently received the contract through a third party at £28,000. The middleman could afford to pay £3,000 more than the contractor's first estimate, and there must have been a terrible leakage. Germany had been amongst the greatest offenders in this direction. The aniline dye industry had been kept in German hands only through bribery. Just before the war the English glass industry was *facile princeps* in this country, but most of our large hotels were controlled by German interests, and British manufacturers could not get glass into those hotels, unless they were prepared to adopt these methods which Germany had adopted as a national practice.

The Secretary of the War Office states that the second meeting of the Imperial War Graves Commission was held on February 18. It was announced that the Government had undertaken to bear the cost of laying out, enclosing, planting, and maintaining British military cemeteries abroad and of providing suitable headstones for the graves wherever possible. The Commission had under consideration a report with regard to the laying out and architectural treatment of cemeteries, and the chief recommendations were:—That the principle of equality of treatment laid down by the Commission should be carried out; that in addition to the individual headstone there should be in each cemetery cen-

tral memorials inscribed with some appropriate phrase or text; and that the constructional work in the cemeteries should be carried out under the general supervision of three principal architects, Mr. Reginald Blomfield, Sir Edwin Lutyens, and Mr. Herbert Baker. These were generally approved, and it was agreed that, with a view to arriving at an accurate estimate of the cost of carrying them out, the necessary authority should be obtained to proceed, on plans approved by the three principal architects, with the work of laying out, enclosing, and planting, and the erection of headstones and central memorials in three selected cemeteries in France or Belgium which contain the graves of both British and Dominion soldiers. It was announced that regiments and other military formations had been asked to send in their own suggestions for the design of headstones. These were now being received by the Commission, and it was decided that the offer of the Directors of the National Gallery and the Wallace Collection and Mr. Macdonald Gill to assist in the final selection should be accepted. It was stated that some, if not all, of the Dominions would decide on a headstone representing the Dominion rather than individual regiments. A committee was appointed to consider the special questions arising with regard to the graves of Indian soldiers.

Under the auspices of the Liverpool Architectural Society, the series of designs for cottages, prepared by Liverpool and Manchester architects in response to the national competition organised by the Local Government Board, in conjunction with the Royal Institute of British Architects, was last Thursday opened for public exhibition, for the rest of last week, at St. George's Hall. The exhibition, which had been transferred from Manchester, was located in four of the committee or consultation rooms overlooking St. John's Gardens, affording a fair light for the screens. Class one confined to cottages of a single living room, three bedrooms, and offices, attracted chief attention, because it is for the multiplication of this dwelling that the Local Government Board propose to offer some form of subsidy. Liverpool architects seemed disposed to criticise the competition on the grounds that a more specific distinction should have been drawn between dwellings for urban and rural areas, and that, to meet the diverse local needs and conditions, the country should have been subdivided into more numerous areas.

The policy of closing down unnecessary churches has been carried a stage further by the discontinuance of services in the church of St. Titus, Portland Street, Liverpool. This church is not an old one, since it dates only from 1860, and was one of several built within a short distance of each other, presumably as an offset against the greatly increased numbers of Roman Catholics in the district which followed the Irish immigration after the '48 famine. Apart from this, it has no history, and in all probability it will have no noteworthy future. It may become a parish hall for the adjacent church of St. Alban, in which the parish of St. Titus now becomes merged, or the building may be acquired by the Liverpool Corporation.

Sir John Mowlem Burt died last Wednesday at Carthion, Durlston Park, Swanage, aged 75. He was educated at Marischal College, Aberdeen, and in 1862 entered the firm of John Mowlem and Co., of which he became the senior partner in 1888. Sir John was twice married—first to Marion, daughter of Mr. R. K. Aitchison, and secondly to Grace Emma, only daughter of Mr. Joseph Blackstone.

At Ayr, at the last meeting of the town council, a minute of the public health committee stated that letters had been received from medical practitioners and others, as to the injury to public health caused by the product which the Ayr Gas Company are at present supplying as gas, and the committee, being satisfied of the existence of the nuisance, recommended the council to serve a notice on the company requiring them to remove the nuisance within twenty-four hours. The council approved, and the sanitary inspector was ordered to take the necessary proceedings. Other public bodies just now might well take similar action!

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CARDIFF.—For painting weighbridge offices, for the corporation:—

Gough Bros.,	£38 10 7
S. J. Jenks	45 3 6
W. Rowles	37 13 0
Turner and Sons	71 10 0

*Accepted.

ELGIN.—For installation of heating apparatus at the academy buildings, for the School Board:—

Mackenzie and Moncur, Edinburgh £374 5 0
(Accepted.)

FINCHLEY.—For repainting and repairs to skylights at Long Lane school, for the Finchley Education Committee:—

C. Hall and Sons, £30 14s. 6d. (accepted).

GLASGOW.—For carrying out Garngad Road housing scheme for the corporation. Accepted tenders:—

Wilson Bros., digger and brick, etc.	£11,092 15 6
J. McDonald, joiner, etc.	10,974 2 4
P. White and Co., slater, etc.	1,560 12 4
G. Munro, plumber, etc.	5,351 7 6
A. McKellar, plaster	1,235 2 9
J. Sterling, painter	868 14 4
Parswin Construction Co., streets, etc.	1,141 0 0

LONDON.—For various works, for the London County Council.

Accepted tenders:—Sludge vessels, supply of anchors, H. P. Parkes and Co., Ltd., Tipton, £2 1s. 6d. per cwt.; sludge vessels, supply of high-pressure cylinder liners, Seagers, Ltd., Dartford, £35; southern outfall, supply of cast-iron valves, Seagers, Ltd., Dartford, £1 2s. per cwt. and 10s. for each test piece; rising main at North Woolwich, supply of cast-iron collars, Stanton Ironworks Co., Ltd., Nottingham, £15 13s. 6d. per ton; southern outfall, removal of filth, J. Gittings, Plumstead, 2s. 6d. per ton; Abbey Mills pumping station, supply of piping, J. Oakes and Co., Ltd., Alfreton, £42 10s.; Southern outfall, supply of gratings and buckets, G. Fletcher and Co., Ltd., Derby, £11 7s. 6d.; southern outfall, supply of pump rod brasses, Anti-Artition Metal Co., Ltd., Camberwell, S.E., £32 14s.

SHEFFIELD.—For internal and external painting at Heeley Baths, for the corporation:—

Simpson and Melling, £450 (accepted).

WEYMOUTH.—For joinery and other works at Enderby House, for the corporation:—

A. E. Whettam*	£55 18 0
H. F. C. Jenkins	59 10 0
Conway, Ltd.	68 18 0

*Accepted.

It has been decided to build a war memorial chapel at St. Anne's Catholic Cathedral, Leeds, to cost about £600.

Mr. A. W. Hunt, of Longlands, Lancaster, for fifty years head of the firm of Shrigley and Hunt, of Lancaster and London, stained glass window manufacturers, has left £19,722.

Mr. C. Russell Peacock, M.S.A., who was recently appointed an assistant inspector to the War Cabinet Committee on Office Accommodation, has been appointed one of the inspectors (unpaid).

Sir James Boyton, M.P. (Messrs. Elliott, Son and Boyton), and Mr. J. G. Head (Messrs. Geo. Head and Co.), Past-Presidents of the Auctioneers' and Estate Agents' Institute, have been placed on the Commission of the Peace for the County of London.

Frederick Wells, Toledo, Ohio, won first prize in the architects' contest, which closed December 27, at Columbus, Ohio. The contest, arranged by the American Institute of Architects, was participated in by 250 architects from all parts of the United States. Plans were submitted for a house of moderate price, limit 6,000 dollars. Other Toledo architects received honourable mention.

LIST OF TENDERS OPEN.**BUILDINGS.**

No Date.—Slaters', plumbers', masons', joiners', and painters' work in alterations at St. Saviour's Vicarage, Baccup.—Particulars from J. Shepherd, 3, Orchard Villas, Baccup.

ENGINEERING.

March 11.—Construction and maintenance of a ferro-concrete built superstructure for cold stores, Avonmouth Docks.—For the Docks Committee.—Secretary of the Docks Committee, Docks Office, 19, Queen Square, Bristol.

March 30.—The Acting British Consul at Santiago reports that a decree has been issued calling for tenders for the improvement of the port of Antofagasta (Chile). By the terms of this decree the amount to be expended on this work must not exceed £1,700,000. Details may be obtained from the Port Commission Offices in Santiago, and copies are expected to be received shortly at the offices of the Chilean Legation in London, 22, Grosvenor Square, W.I. Tenders will be received up to 3 p.m. on March 30 by the Minister of Finance, Santiago.

ROADS AND STREETS.

March 9.—Diverting road and stream at Addiewell, Scotland. Plans, etc., on view at Addiewell Chemical Works.—Tenders to R. W. Meikle, Secretary to Young's Paraffin Light and Mineral Oil Co., Ltd., 7, West George Street, Glasgow.

TRAMWAYS.

March 12.—Supply of (1) permanent way special track, (2) rail bonds (copper).—For Tramways Committee.—Specifications, etc., from J. M. McElroy, general manager, Corporation Tramways, 55, Piccadilly, Manchester. Tenders to Chairman of Tramways Committee at same address.

Edmonton is building a series of raid shelters, and, in three months, expects to provide sufficient for the needs of all its inhabitants.

An exhibition of paintings of "War," by C. R. W. Nevinson, who is an official artist on the Western Front, will be opened on Saturday, March 2, at the Leicester Galleries, Leicester Square.

The Dean of Guild Court have approved plans for a canteen near the Kingstown Shipbuilding Yard, Port Glasgow, for Messrs. Russell and Co., ship builders. Mr. F. Burnet is the architect.

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Strand, W.C.2.

New Road Screen and Restored Chancel, St. Columb's Church, Cornwall. Mr. G. H. Fellows Prynn, F.R.I.B.A., Architect.	
Parcel Post Buildings, Melbourne.	
Housing Scheme, Highgate, Bolton-on-Dearne, Rotherham, Yorkshire. Plans, elevations, and section of type No. 3a of houses for miners. Mr. John W. Wilson, Surveyor to the Council, Architect.	

Currents Calamo.

We remind all interested that Sir John Soane's Museum, 13, Lincoln's Inn Fields, W.C.2, is now open, free, from 10.30 a.m. to 5 p.m., on Tuesdays, Wednesdays, Thursdays, and Fridays in March, April, May, June, July, and August, and at other times by cards obtainable of the Curator at the museum. A new students' room, on the ground floor, has been allotted for the purposes of architectural sketching and drawing from the unique collection of casts from the antique, and special facilities are given to students on application to the Curator. A useful and interesting packet of fourteen postcards has been printed, carrying illustrations of the museum and some of the principal rooms, together with the Lawrence portrait of Sir John Soane, the Flaxman original models, Chantrey's bust of Sir John, the frieze and ovolo that belonged to Robert Adam, Charles the First's jewel captured at Naseby, Queen Anne's gift to Sir Christopher Wren, the tomb of Sir John and Mrs. Soane in Old St. James's churchyard, etc. The series can be had for 1s. at the museum, and offers to visitors the opportunity of despatching to their friends souvenirs quite out of the common, and likely to induce inspection of its contents, which are of much greater interest than the majority of the public seem to be aware of.

Mr. G. Bertram Kershaw, the new President of the Institution of Sanitary Engineers—a body which has done much more to further sanitation than some of the semi-amateur societies that profess much but do little for it—said much in his recent address which deserves careful consideration. However opinions may differ as to the leniency or undue strictness of the standards proposed by the Royal Commission on Sewage Disposal, it is perfectly clear to all with any experience that if a sewage scheme is to be of any good at all, it must be designed to suit the special needs and conditions of the locality to be dealt with. That we have always maintained, but Government Departments, and our new "Ministries" of one sort and another, are always more or less in love with standardised plans, because they save trouble to officials who have no concern

whatever with results as regards efficiency or economy. We are glad Mr. Kershaw emphasised this point, and equally so that he denounced English indifference to research work. Having displayed to the world our fatuous neglect of research in connection with the testing of materials, we are at last to give the National Laboratory something like a chance of doing adequately what it has done on a small scale so well with the most meagre assistance from the State. Probably in the course of another fifty years some new plague will wake us up to the fact that America has been long equipped with a sewage testing station at Lawrence, Mass., which has done good service. Mr. Kershaw's reminder of its existence and his remarks on the needs and proper management of such an institution are timely, but as the first care of any new "Ministry of Health" here will be to treble its staff and their salaries, and commandeer or build a princely mansion to work in, it is not likely sanitation will get much attention for a decade or two.

The annual meeting of the Property Owners' Protection Association at the Cannon Street Hotel last Thursday, followed as it was by a reception at the Mansion House by the Lord Mayor, was a gratifying demonstration that thrifty investors, whose interests are the care of the Association and its energetic president Mr. Edwin Evans, are waking up to the necessity for mutual defence. The National Federation of Property Owners and Ratepayers, to which the P.O.A. and some seventy other associations are federated, now numbers 20,000 members owning real property of the estimated value of five or six hundred millions. It should, and must, attract the support of every small owner in the three kingdoms, including the thousands who, when house-building is once again permitted after the war, are reinforced by our women-voters, who have the chief interest in the sacredness of the home. At the Mansion House meeting last Thursday, housing was discussed by men who really know what we want, and how it must be gained and kept, and their utterances contrasted refreshingly with the piffle of the noisy advocates of confiscation, whose chief present inducement to the proletariat to keep and multiply fit dwellings seems to be the

assurance that for them alone there is to be no guarantee of insurance against a policy of violence and robbery akin to that which is reducing Russia to anarchy.

There is much interesting and useful matter in "The Welsh Housing and Development Year Book, 1918" (Cardiff: The Welsh Housing and Development Association, 38, Charles Street. 1s. 6d. net.). Mr. D. Lleuffer Thomas, J.P., urges, with good reason and clear foresight, the present need of "regional planning" of certain areas in South Wales, at any rate, as supplementary and co-ordinated with purely local "town planning," as, indeed, is already evident enough elsewhere. Mr. D. M. Jenkins, the borough engineer of Neath, contributes a practical paper on the town-planning and development of hillside areas. Mr. J. A. Lovat-Fraser has a good deal that is pertinent to say about the need for education in architecture and town-planning, the lack of which is responsible for the protests of some of the public bodies that they cannot obtain the necessary technical assistance without which the preparation and execution of such schemes are impossible. Mr. Arthur Jenkins pleads the necessity of municipal ownership of land, as in Germany, where, in some towns, as in Freiberg, it rises to as much as 77.7 per cent., and in one at least has abolished all rates, besides paying a dividend of £15 per annum to the lucky inhabitants. Mr. Edgar L. Chapoel fairly states the claimed advantages and the advanced objections to the proposed new "Ministry of Health." Mr. T. Taliesen Rees, F.R.I.B.A., F.S.I., points out possible economies in cottage building. Miss E. P. Hughes deals with housing problems from a woman's standpoint. Mr. Charles T. Rathen, F.R.I.B.A., discusses house-building by private enterprise after the war. Other more or less kindred contributions make up a readable issue on which the Editor and the Association of which he is the active secretary may be heartily congratulated.

The annual report of University College, London, has just been issued. It appears that, whereas in normal times the total number of students, day and evening, amounts to about 2,200, the number last session was 1,240. This number included 121 members of H.M. Naval and

Military Forces, for whom special courses were provided, and 159 who attended special Vacation Courses, so that the actual number of ordinary students was 960, of whom 547 were women. The report further shows that, whereas the normal fee revenue amounts to between £29,000 and £30,000 a year, the fee revenue last year was only £14,000. Economies of every kind have been introduced, and all expenditure that can be deferred has been so deferred. The financial position, however, is, naturally, a difficult one. It is anticipated that, unless further help from the Treasury is forthcoming, there will be a deficit at the end of the current session of nearly £9,000 on the college establishment account. The report shows that, while the ordinary activities of the College have been maintained to meet the needs of the students actually in attendance, all available energies have been directed towards war purposes, of which some account is given, but obviously details must be held over until the end of the war. Among the important developments of the year may be noted the admission of women to the faculty of medical sciences; the reorganisation of the Department of Italian, providing for a professorship, a readership and an assistant; the institution of a department of Scandinavian studies; and a movement for the institution of a department of Dutch studies. The Pro Patria list, of which a new issue will shortly be made, includes about 2,500 names of past and present members of the College who are taking an active part in one or other of the services connected with the war. Of these, no less than 195 have already fallen. The list of honours and distinctions gained in the war is a long one, and includes one Knight Commander of the Order of St. Michael and St. George, 27 Companionships of St. Michael and St. George, one Knight Commander of the Order of the Bath, 12 Companionships of the Bath, one Knight Grand Cross of the Royal Victorian Order, one Companionship of the Order of the Indian Empire, a Clasp to the Victoria Cross, a Victoria Cross, a Bar to the Distinguished Service Order, 41 awards of the Distinguished Service Order, three awards of the Distinguished Service Cross, a second Bar to the Military Cross, six Bars to the Military Cross, 120 awards of the Military Cross, two Orders of Leopold (Belgian), one Croix d'Officier (French), three Croix de Chevalier (French), four Croix de Guerre (French), 1 Croix de Guerre (Belgian), one Military Order of Savoy (Italian), two Silver Medals for Military Valour (Italian), three Orders of St. Stanislas (Russian), three Orders of the White Eagle (Serbian), and 244 Mentions in Despatches.

Trade combinations, or "Trusts," to maintain prices and pool profits are increasing with the pressure of these times. They are to be found in the iron trade and are not unknown in Birmingham. The legal position of these concerns is both curious and confusing. A contract in restraint of trade is still void under

the old Common Law. But there have been many decisions of the courts that rather whittle away this principle in business practice. There is also the Trade Union Act, 1871, which renders such contracts valid, and then goes on to declare that they shall not be "directly" enforceable at law. What this often amounts to nowadays was shown in the recent case of "Evans and Co. v. Heathcote." There the plaintiffs sued to recover £958 as being due to them under a contract made in 1913; also claiming that sum alternatively as owing upon an "account stated" between the parties. The facts showed that certain cased tube manufacturers in Birmingham had formed themselves into an association practically to maintain profits, protect the trade, and pool profits. One clause in an agreement provided that a member whose turnover had fallen off should receive compensation out of a fund which was made up by payments from those who had done good business. The sum here claimed by plaintiffs was agreed as the compensation due to them under this plan. The defence was that the agreement was illegal and so void, as being in restraint of trade. Mr. Justice Low held this view, and he gave judgment for the defendant, although the only restraint shown was against the plaintiffs themselves, who did not in any way object to it. The judge further ruled that the claim upon an account stated could not succeed because it was based on the void contract. On plaintiffs' appeal, however, three Lords Justices agreed in finding a way out. They held that the plaintiffs could not recover "directly" upon the contract, because it imposed an unreasonable restraint on their own trade, and so was not legally enforceable. An "account stated," as the facts here proved, means a sum agreed upon for an executed consideration, which implies a promise to pay. The court held that this could stand by itself without the void contract, out of which they thought it only indirectly arose, and so the plaintiffs got home handsomely with their whole claim and their costs of the action and the appeal.

A correspondent of *Indian Engineering* who has perused the correspondence appearing in its columns some time back regarding the unkempt condition of some of the statues in Calcutta says he noted, while in Madras recently, that many of the statues there are covered over, and though this purdah arrangement does not contribute to beauty, it is a practice which preserves the statues in Madras and keeps them in a decent condition. Why not, he asks, cover the Calcutta's statues daily, say, from 9 a.m. to 4 p.m., and again from 7 p.m. to 5 a.m.? This arrangement would keep them in a much cleaner and better preserved condition than some of them are in at present. Possibly we should not miss much if here in London we followed suit, if only during the winter, when soot invests our own heroes and worthies with an additional garment of gruesome hue, which it seems nobody's business to remove in "summer time."

FINANCE OF HOUSING AND REFORM OF RATING.

Mr. Edward Gibbs, F.R.I.B.A., of the firm of Messrs. Gibbs, Flockton and Teather, of 15, St. James' Row, Sheffield, recently sent us a pamphlet with suggestions for the solution of the problem of housing; by provision for extra cost of building by house duty on houses under £20; and by relief from increased rent due to rate of interest by local income rate instead of existing rate. These suggestions are of immense importance to trade and agriculture. All authorities are agreed that houses cannot be erected after the war to pay economic rents and to compete with existing houses as to rents; and that unless subsidies are granted by the Exchequer, very few, if any, further houses will be erected until the rents of existing houses are raised sufficiently to encourage building further houses at the extra cost. Subsidies are therefore necessary for the housing, and it will be found that housing at low rents is necessary for trade and agriculture.

If subsidies be not granted and if rents be raised, then also rates, and in the adjustment of wages after the war the extra rent and rates will have to be provided for the tenants by a corresponding extra wage, which will also have to be granted to other workers who are not tenants but who render equivalent services to those who are tenants. In Appendix N is an estimate of the extra wages bill of the United Kingdom, amounting to £49,000,000 annually, if it be assumed that subsidies be not granted, and that the extra cost of building be 33½ per cent. with an additional 1 per cent. in rate of interest on the same. These rents and wages would have to be increased each subsequent year that further subsidies were required.

In addition to this large amount (in Appendix P) is an estimate of a further national extra wages bill of £32,000,000 annually, which will be due after the war, even if subsidies are granted, to cover the cost of extra rate of interest on existing houses, and consequent increase in wages, which would be unavoidable for such time as the rate of interest continues to be high.

These heavy burdens, amounting to £81,000,000 annually, would be borne by trade and agriculture, and would lead to increased cost of clothing, food, and other home trade necessities of life, and to further cost of housing, all of which would react on wages. Also the increased cost would increase the imports and reduce the exports, at a time when every effort should be made to recover the waste of war. The granting of subsidies for houses under £20 rent, and the relief by local income tax, is therefore not only for the benefit of the working-class and other tenants, but also in a greater measure for the national trade and prosperity.

The £49,000,000 benefit would accrue under any of the many schemes for subsidies or their equivalents, but at the cost of the Exchequer or local authority. In my suggestions alone is there provision for payment of interest and repayment of subsidies, by the small charge of house duty on the tenants who benefit by the lower rent, and without any charge upon any other taxpayer or ratepayer. The £32,000,000 burden would be relieved by £18,000,000 by the local income rate. (Appendix Q.) Of the estimated £81,000,000 extra wages bill of the United Kingdom the suggestions in Mr. Gibbs' pamphlet would relieve £67,000,000, without cost to the Exchequer or to the local authority.

In the pamphlet reference is made to the burden on trade due to the existing

rating in consideration of machinery, as a deterrent to the provision of new and up-to-date machinery. The local income rate would remove this burden, new and better machinery would increase the production of goods, and, again, the adoption of the suggestions would help to recover the losses due to the war.

The suggestions seem to us financially sound, and we commend Mr. Gibbs' figures, which we give in full, to the careful study of all interested. Readers who have not read his pamphlet can obtain a copy from him on receipt of a postcard.

APPENDIX N.

Effect on Annual Wages Bill of Subsidies for Houses under £20 rent in the United Kingdom.

Based on assumptions as to after-war conditions, necessarily very uncertain and on averages; but which are sufficiently reliable for considering the general effect.

Assume, cost of building after war at least 33½ per cent. extra to cost before war.

Assume, Government grant 33½ per cent. subsidy, or other equivalent in form of land, lease of land or loan at low rate of interest.

Assume, that without such subsidy further houses would not be erected until the rents of existing houses were raised at least 25 per cent. to encourage the building of further houses at 33½ per cent. extra cost, and that the rates would be increased in proportion.

Then, the calculation as to effect on rent and on wages is as follows:—

Annual value of existing houses of under £20 (Inl. Rev. rep. 59, p. 26)—

Great Britain..... £66,405,371
Ireland at least say 3,594,629

United Kingdom, say £70,000,000

Add for rates, etc., at least ½ .. 23,333,333

Charge, rent, rates, etc. £93,333,333

Increase 25 per cent. £23,333,333

Houses suggested to be erected—

England and Wales ... 300,000

United Kingdom, say ... 350,000

at average pre-war charge for rent, rates, etc. (see Appendix A), £16..... £5,600,000

Increase 33½ per cent.... 1,866,666

Increase in Rent, Rates, etc., if no Subsidies .. £25,199,999

Number of houses under £20 (Inl. Rev. rep. 59, p. 26)—

Great Britain ... 7,408,482

Ireland, say, at least .. 591,518

United Kingdom, say .. 8,000,000

Do. to be erected .. 350,000

8,350,000

Increase of wages for 8,350,000 tenants, to cover increase of rent, rates, etc. (about £3 per year) .. £25,199,999

Number of workers, men and women (see Appendix G, item M) ... 13,600,000

Tenants of existing houses and houses to be erected, under £20 .. 8,350,000

Workers who are not householders .. 5,250,000

Increase of wages for the same at same sum each as for the tenants, say £3 per year..... 15,750,000

40,949,999

If rate of interest be 6 per cent. instead of 5 per cent. add 1-5th... 8,189,999

Increase in Wages if no Subsidies £49,139,998

APPENDIX O.

House Duty at 3d. in £1, England and Wales (see Appendix F) .. £939,085
United Kingdom .. £1,059,250

APPENDIX P.

Effect on Annual Wages Bill of Increase in Rate of Interest in the United Kingdom.

Assume, increase from 5 to 6 per cent., which 1 per cent. is an increase of 1-5th of the 5 per cent., that is 20 per cent. of rent, rates, etc.

Annual value, in 1914, of existing houses, as before .. £93,333,333

Annual value, houses to be erected at pre-war rents and rates, as before .. 5,600,000

£98,933,333

Increase in Rent, Rates, etc., Due to interest 1-5th, or 20 per cent. £19,786,666

Increase in wages for 8,350,000 tenants, under £2½ .. £19,786,666

Increase in wages for 5,250,000 other workers, at £2½ .. £12,250,000

Increase in Wages due to Interest £32,036,666

APPENDIX Q.

Relief of Annual Wages Bill by Local Income Rate.

Annual value of houses under £20 in United Kingdom, as before £70,000,000

Annual value of houses to be erected, pre-war value, £5,600,000.

less ¼ .. 4,200,000

£74,200,000

Increased by 20 per cent. for interest .. £89,040,000

Rateable value, reduced 1-5th .. £71,232,000

At average rate of 6s. 8d. in £1 .. £23,744,000

Local Income Rate, about half .. £11,872,000

Less wages required for 8,350,000 tenants, under £1½ .. £11,872,000

Less wages required for 5,250,000 not tenants, at £1½ .. £7,000,000

Relief... .. £18,872,000

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

ELECTION OF GOLD MEDALLIST.

There was a meeting of the Royal Institute of British Architects on Tuesday, the president (Mr. Henry T. Hare) being in the chair.

An interesting item in the business was the passing of a resolution, "That, subject to his Majesty's gracious sanction, the Royal Gold Medal for the promotion of architecture be presented to Mr. Ernest Newton, A.R.A., in recognition of the merit of his executed work."

THE REBUILDING OF LONDON AFTER THE GREAT FIRE.

Mr. Walter George Bell, F.R.A.S., read a paper on the above. He said Restoration London, like all European capitals of the time, covered comparatively small ground, and that very thickly. The flames of September, 1666, burnt through 436 acres of crowded property, leaving in ruins eighty-seven parish churches, St. Paul's Cathedral with bare walls open to the sky, and Guildhall in the same condition, the Royal Exchange, Customs House, and Sessions House destroyed, and no fewer than 13,200 houses, mostly timber-built, in heaped debris. There were six prisons burnt, and forty-four Livery Companies' halls. Fire insurance being then unknown, the owners of houses and merchandise consumed were confronted with a dear, irrecoverable loss.

The Acts for the Rebuilding of London and for setting up the Court of Fire Judges to decide disputes were passed six months after the Fire. The recovery at the outset was so slow that by December, 1667, the foundations had been staked out for 650 houses only. Samuel Rolle, the divine, nineteen months after the Fire estimated that there were then 300 houses newly built. Meanwhile much was done by the City Corporation, though badly hampered for want of funds, in straightening certain principal streets, clearing away sharp corners, and reducing steep acclivities.

Houses rose singly on the separate owner's sites, and only in after years were the buildings continuous. The Rebuilding Act and powers exercised by the City surveyors ensured that they should key correctly.

Parliament's only financial contribution was the Coal Dues, themselves partly paid by the distressed citizens. The impossibility of restoring London's public buildings with such restricted means was recognised in the Additional Building Act of 1670, which raised the Coal Dues to 3s. per ton, and extended the term to twenty years. The City from this revenue and from loans restored Guildhall, Wren's work being completed in December, 1674, at a cost of £37,422. Newgate was patched up sufficiently to serve its historic purpose as a gaol till 1670, when rebuilding was begun, and was finished in 1675. Ludgate Debtors' Prison was rebuilt in 1675. The new Royal Exchange, raised at the joint charge of the Mercers' Company and the City Corporation, was opened in September, 1669. Crown revenues bore the cost of the Customs House.

Little real progress was made with rebuilding the London streets till the spring of 1668, when about 1,200 houses were under scaffolding, activity falling off towards the winter. In the spring of 1669 a somewhat larger number of new houses were under construction, about 1,400, and this rate was continuous till the autumn of 1670. Thereafter it greatly slackened, and labour was diverted to the erection of public buildings and churches. By 1672-3 the commercial needs of the capital were substantially satisfied.

In the matter of private enterprise the Livery Companies, to their enduring credit, led the way in the rebuilding of London. They raised funds for the restoration of their halls, in many cases before the dwelling-houses and warehouses of individual liverymen could be rebuilt. The cost of building to-day (before the dislocation in prices caused by the European War) is from two to two and a half times as much as in the time of Charles II. It is unlikely that the houses newly-built in the City exceeded nine thousand in number. The reduction from 13,200 is strikingly large, and indicates that the improvement of London after the Great Fire was more important than has been generally conceded—much larger, in fact, than I had been prepared for; but I have been compelled to accept these figures after perusal of the accounts for staking out foundations. Taking £350 as the average building cost of each of 9,000 City houses, we arrive at £6,075,000 as the burden borne by the citizens in rebuilding their houses expressed in modern money values.

London after the Fire remained for a decade, and then for a second decade, a city marked all over with ruins. The Act under which the churches were rebuilt was not passed till 1670. Fourteen churches only had been completed by 1678, twelve years after the Fire. By the year 1683 London possessed twenty-five of its new churches. Seventeen years had then passed; three churches were but lately begun, and there were still six others awaiting to be commenced from the foundations. St. Paul's Cathedral still required twenty-seven years for completion. Facts like these, added to what has been said concerning the time required for the public buildings and streets of new houses, make ridiculous the claim upon the Fire Monument that London, more magnificent than ever, was restored complete in the short span of three years.

Dr. Philip Norman, who moved a vote of thanks, said that dozens of halls of the Livery Companies were ascribed to Wren, but that he (Dr. Norman) had been unable to find on investigation that Wren had built any of them.

Professor Beresford Pite, who seconded the vote of thanks, said that previously to Inigo Jones and Sir Christopher Wren there were no street or civil architects in England, because there was no street architecture. The modern type of street architecture—the architecture of the façade and the public place—had been developed from the courtyards of the Paris houses of the French kings and nobility. The puritanism of the English habit of mind had prevented us having the baroque

or rococo architecture which grew up on the Continent.

Mr. W. R. Davidge asked whether Ogilby's map, which showed the whole city as rebuilt in 1677, was correct.

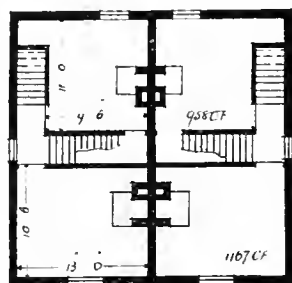
The vote of thanks was unanimously carried, and Mr. Bell replied to the discussion. He said that Sir Christopher Wren had largely got the credit for City halls, which had in fact been built by Jarman. The houses were rebuilt after the fire, one by one as the owners of the land found money for that purpose, but the Act of Parliament which regulated the rebuilding provided for the correct keying of the houses. Compared with the City before the fire, the new City was very formal and plain, but on the whole it was quite a pretty city. Ogilby's map certainly showed a good deal which could not have been complete in 1677. By that time the building of the dwelling-houses had practically finished.

NEW ROOD SCREEN.—CHURCH OF S. COLUMB MAJOR, CORNWALL.

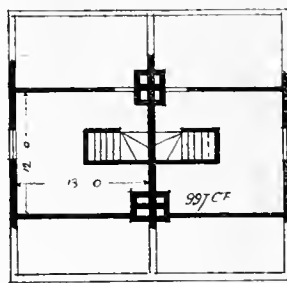
During the restoration of the fine old Church of S. Columb Major, Cornwall, some few years ago, from the plans and under the supervision of George H. Fellowes Prynne, F.R.I.B.A., a single panel of the lower portion of the original fifteenth century rood screen was found under the floor, which was sufficient to indicate the character of the ancient work. Portions of the doorway leading to the rood loft were discovered behind the surface plaster of the walls, which clearly showed the level of the loft. Records of the church mention the fact that during the revolutionary period of the seventeenth century gunpowder was stored on the top of this loft, and that boys, whilst playing, set light to the gunpowder, with the result that the screen was completely destroyed. It is not stated what became of the boys. The late

partment, and for the reproduction of the view are indebted to the "Journal of Proceedings" of the Royal Victorian Institute of Architects.

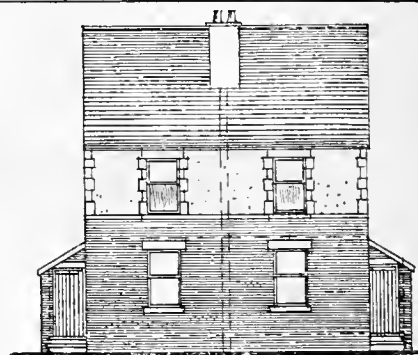
The building occupies a site at the corner of Bourke and Spencer Streets, having an area of 190 ft. by 140 ft., the major dimensions being on the Bourke Street frontage. The job has just been completed. The building consists of seven storeys, inclusive of basement and sub-basement floors, and provides for official purposes 123,240 square feet of floor space, exclusive of passages, staircases, and latrines, etc. as follows:—Sub-basement floor, 17,200 sq. ft.; basement floor, 16,500 sq. ft.; ground floor, 20,170 sq. ft.; of which area 1,976 sq. ft. is devoted to public space; first floor, 19,600 sq. ft.; second floor, 15,070 sq. ft.; third floor, 16,910 sq. ft.; fourth floor, 17,790 sq. ft. These areas give a total of 123,240 sq. ft.



BEDROOM PLAN.



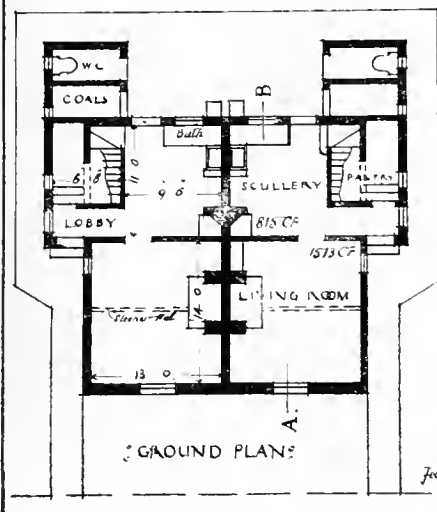
LATTICE PLAN.



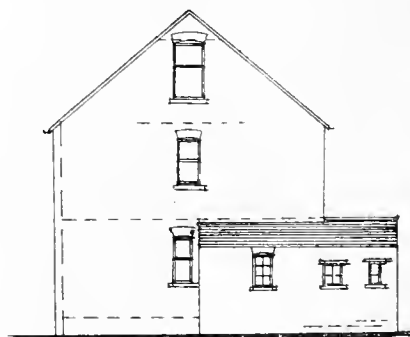
FRONT ELEVATION.

BOLTON UPON DEARNE URBAN DISTRICT COUNCIL HOUSING SCHEME TYPE 3A

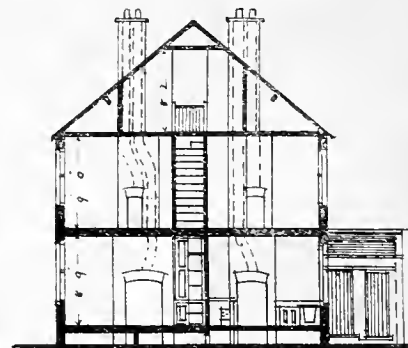
JOHN W. WILSON ARCHTCT.



GROUND PLAN.



WEST END ELEVATION.



SECTION A-B.

feet 10 0 10 20 30 40 50 60 feet

but a great many of the churches which appear in Ogilby's map were still bare church sites.

Our Illustrations.

PUBLIC OFFICES, PONTYPRIDD, GLAMORGANSHIRE.

The two main elevations and photograph of the façade of this municipal building are accompanied by the three principal plans giving the three chief floors, so that the illustrations really are self-explanatory. The central feature of the interior is formed by the spacious thoroughway corridor, which is vaulted. The Council Chamber overlooks the street in front of the premises on the first floor. Cloak-room and lavatory accommodation are attached. A small public gallery is provided, and this has a separate staircase, which also leads up to the caretaker's flat on the second floor. Mr. Henry T. Hare, president of the Royal Institute of British Architects, was the architect of the building.

rector, the Rev. E. J. Walker, generously undertook the restoration of the rood screen, which was duly carried out, together with the choir stall work and sanctuary furniture, from Mr. Fellowes Prynne's designs, by Messrs. H. H. Martyn and Co., sculptors, of Cheltenham. The screen, which is in oak, is groined alike on both sides, and the richly-carved detail is characteristic of similar beautiful screen work in Cornish and Devon churches. The photograph reproduced was exhibited at the Royal Academy last season.

NEW PARCELS POST OFFICE BUILDING, SPENCER STREET, MELBOURNE.

Members of the Royal Victorian Institute, recently by the courtesy of the Department of Works and Railways, paid a visit of inspection to the new Parcels Post Office Building, Melbourne, and were met by the Minister, Colonel P. T. Owen, and heads of departments, who conducted the visitors over the building.

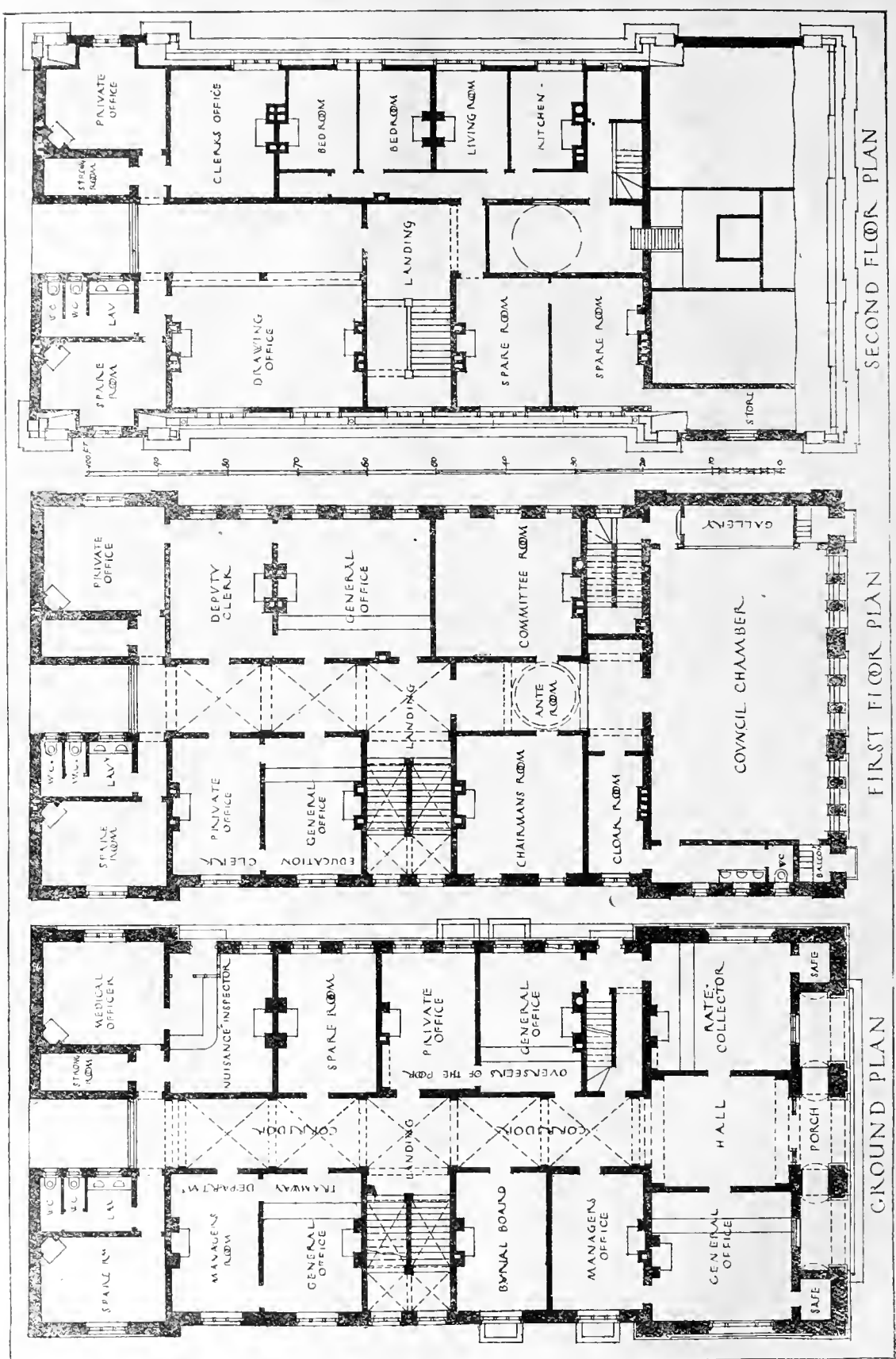
We give the following few particulars, kindly furnished by the courtesy of the De-

HOUSING SCHEME, HIGHGATE, BOLTON-ON-DEARNE.

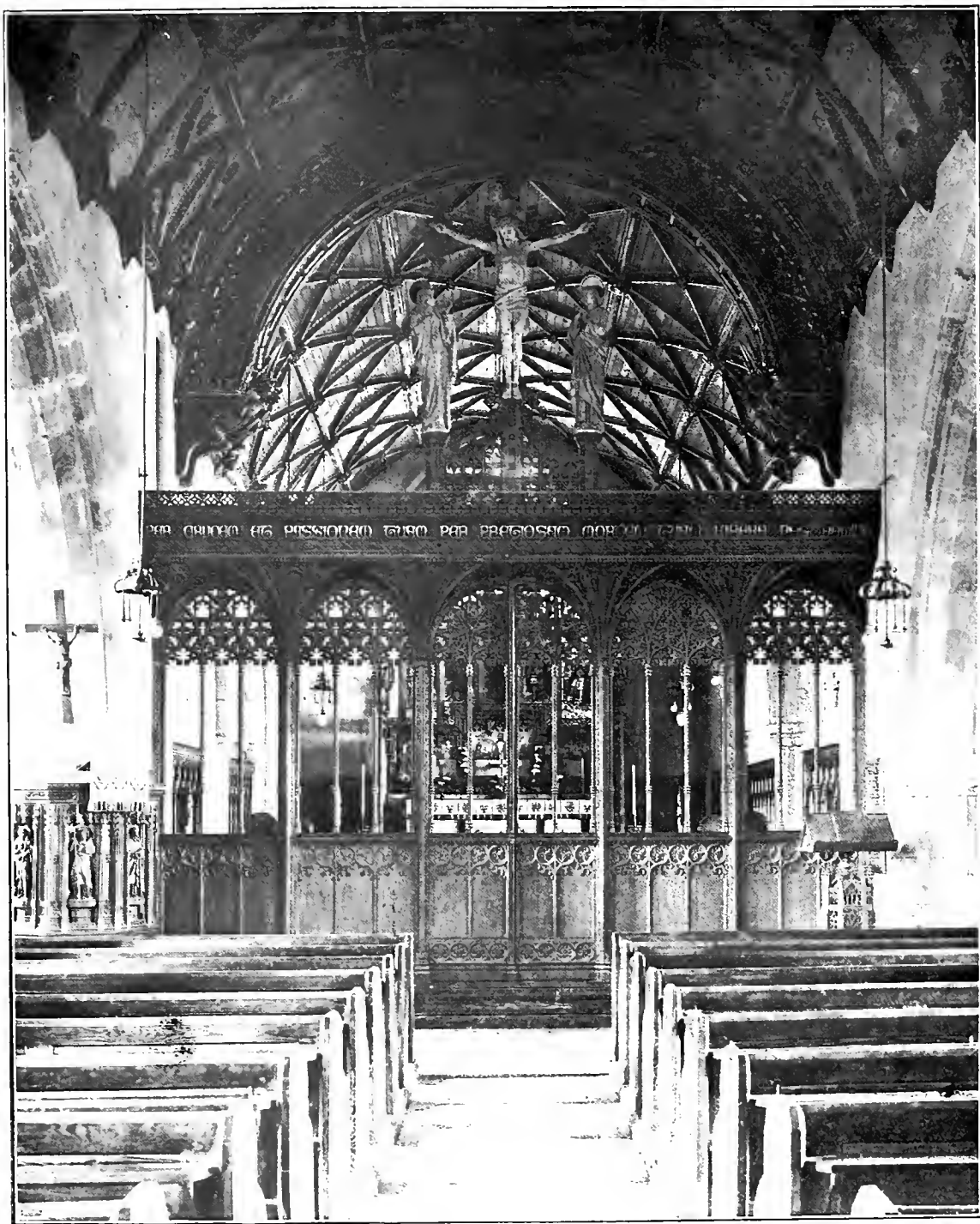
As we explained last week on page 176, we regretted that in our issue of February 20 when we illustrated Types 1, 2, and 3 of this scheme, of which the particulars were kindly furnished by Mr. J. W. Wilson, the surveyor to the council, want of space that week prevented us from illustrating Type 3a, in which the arrangement of the tenements is simplified without a basement, and so differs in that particular from Type 3.

We find this type has been found a favourite with many deputations who have paid visits of inspection, and as it will probably interest others we now illustrate it.

The scarcity of housing accommodation in Belfast has reached an acute stage. Out of 82,000 dwellings only 139 are unoccupied, and most of these are promised to incoming tenants. The rest are houses of such a character as can only be let at a high rental, and are beyond the means of the average worker or middle-class man.



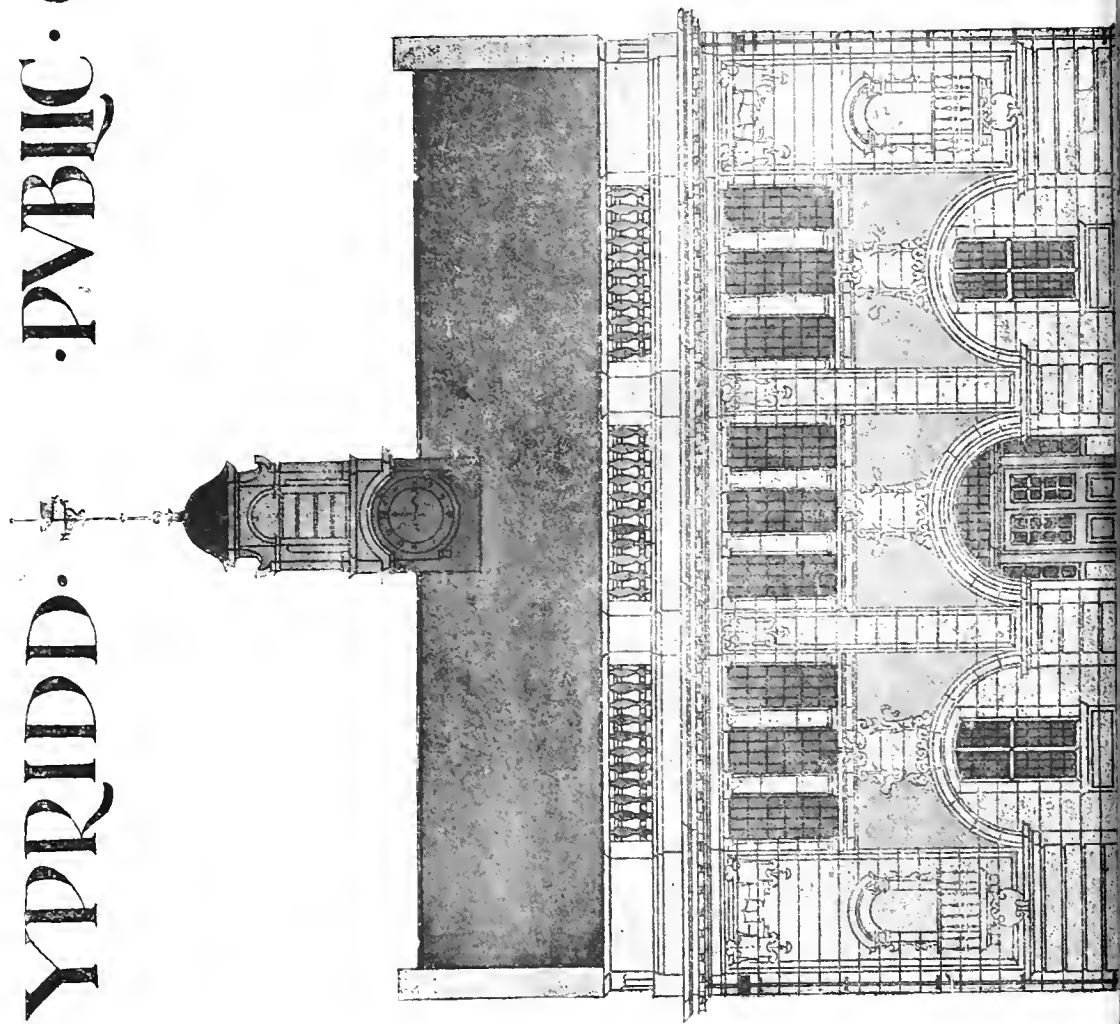
PUBLIC BUILDINGS, PONTYPRIDD, GLAMORGAN.—Mr. HENRY T. HARE, President R.I.B.A., Architect.



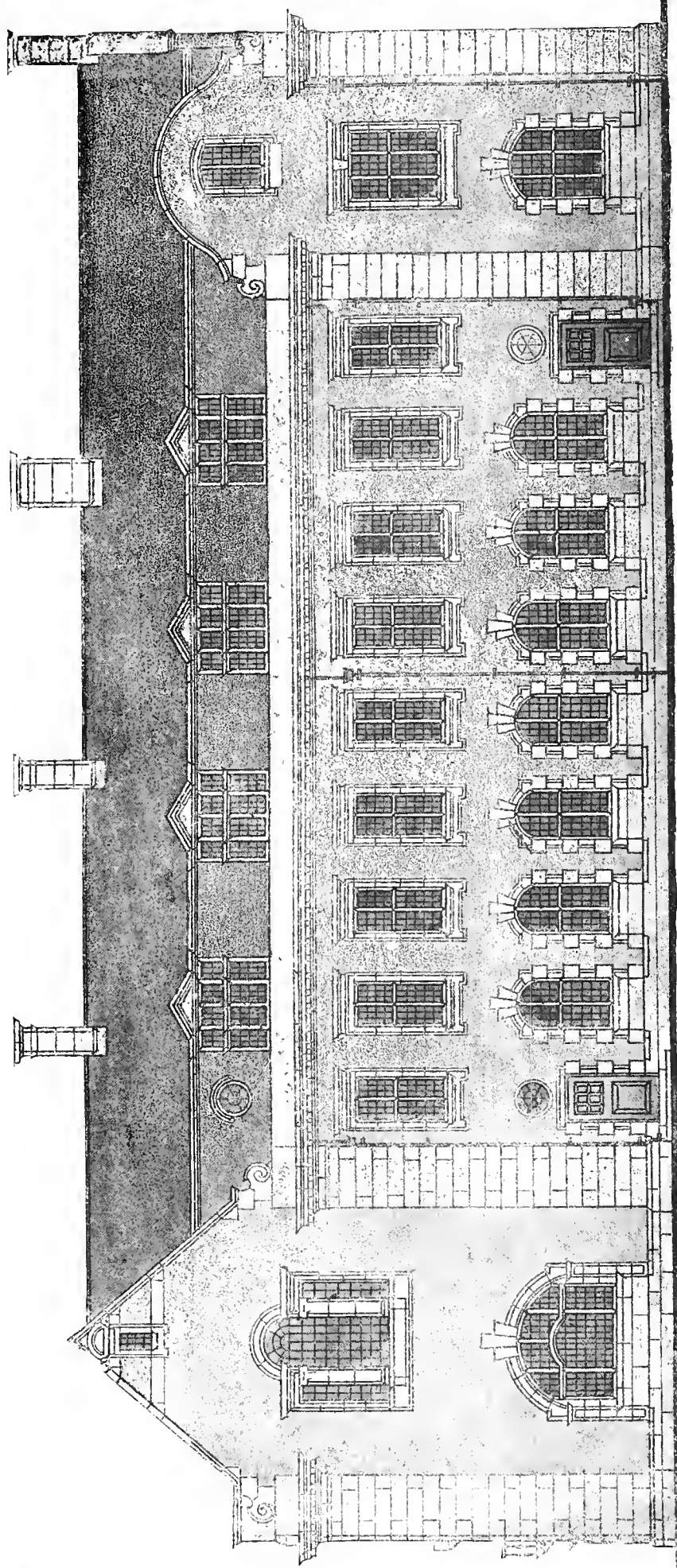
NEW ROOD SCREEN AND RESTORED CHANCEL. ST. COLUMB'S CHURCH, CORNWALL.—MR. G. H. FELLOWS PRYNNE, F.R.I.B.A., Architect.

THE BUILDING NEWS. MARCH 6, 1918.

PONTYPRIDD · PUBLIC · OFFICES ·



SOUTH ELEVATION.



*Scale
Sheet to 1/16 in.*

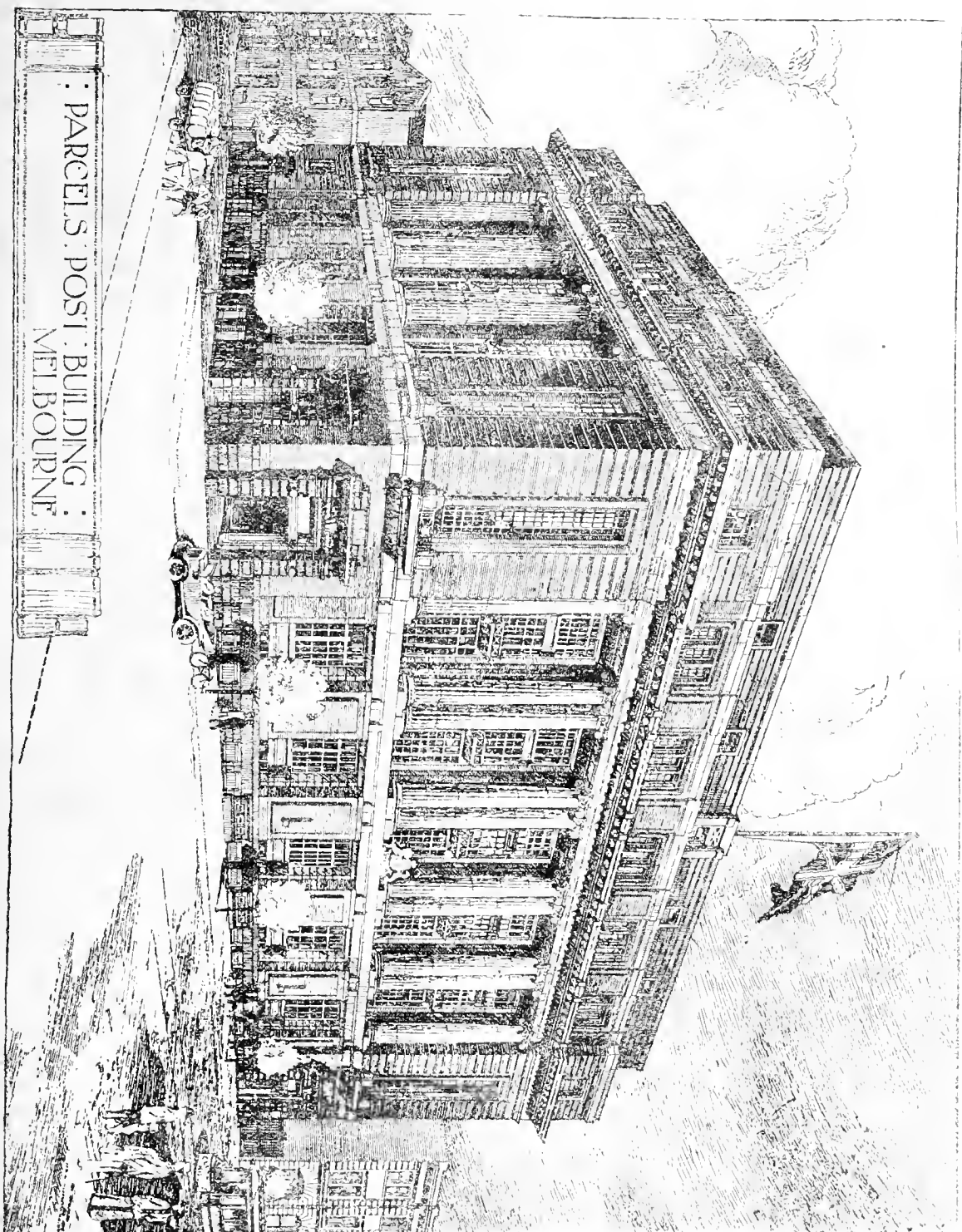
EAST ELEVATION.



Mr. HENRY T. HARE, President Royal Institute of British Architects, Architect.



PUBLIC BUILDINGS, PONTYPRIDD, GLAMORGAN.
MR. HENRY T. HARE, Pres.R.I.B.A., Architect.



: PARCEL POST BUILDING :
MELBOURNE

SUGGESTIONS TOWARDS AN APPRECIATION OF THE PICTURESQUE CONSIDERED IN RELATION TO SOCIAL CONDITIONS AND ENVIRONMENT.*

By MAURICE B. ADAMS, F.R.I.B.A.

(Continued from page 162.)

Reverting to the simplicity of the scheme of cruck timber framing, I wish to show how the method subsequently developed, and we have already seen a charcoal-burners' hut near Sheffield, for which I am indebted to Mr. C. F. Innocent, as also for several other details about the cruck method of building, and the history of this subject of timber work as described in his book on "The Development of English Building Construction."† I show also the top story of a fifteenth-century dwelling at Abingdon, and a sketch of the attic of Kelmscott Manor, William Morris's Surrey house. The drawing of one of the aisles of Leominster church near Arundel, and the interior of Warbarton church, Cheshire, all in timber—it is like the barn in the same county at Arley. Finer still is the Grange Barn at Alceston, Sussex, with its almost cathedral effect.

The proportions of house roofs long continued to be of vast size in one span, thereby ensuring distinction of scale and ample room for storing corn, fruit, vegetables, beers and cyder, every house having to be self-reliant for supplies. In our time house contrivance is schemed to utilise every foot of enclosed space for economic accommodation and separated sleeping rooms, hence the multiplicity of windows and many dormers, militating against breadth and simplicity of lay-out so essential to orderly design. In historic domestic buildings long low lines prevailed, and the height of pitch from floor to ceiling was seldom more than sufficiently tall to stand upright in. Very few old dwellings had communicating passages, one apartment leading haphazard into another. People paid no attention to personal retirement, and the sexes were not particular about privacy. Within the past few years I had to adapt a pair of Stuart Sussex cottages into a country residence, and I found part of the problem hampered by the fact that some of the ground-floor rooms were not more than 5 ft. 6 ins. high. The floorboards and joists of the upper apartments in such places were left exposed, and the unplastered ceilings allowed the dust from above to drop through the flooring, while every movement was audible from below. The kitchen, or keeping place, invariably formed the chief room for the household use. Wash and brew-houses were ample and adjacent. Big brick ovens projected in a picturesque fashion externally alongside of the added chimney corners.

Early in the last century the older folks resisted the provision of regular meal or dining-rooms as a new-fangled notion, and as for ablutions of the body, such a practice was thought necessary only for "dirty people." Sea bathing was, in fact, ignored till George, then Prince Regent, made Brighton fashionable by erecting the Royal Pavilion, and Mother Gunn supplied the bathing machines. Sanitary conveniences were not considered. The term did not occur in their vocabulary, so you will look in vain for the word in old dictionaries. Drainage remained dangerous and inefficient for many years after Victoria came to the Throne. The basement of Eton College Chapel one hundred years ago formed a big sewage tank, with sluices opened once a week to allow backwater from a tributary of the Thames to act as a sort of inefficient flush, and this was the only outlet for the filth collected from the college buildings. The comely houses of Queen Anne and the formal dignity of Georgian homes ignored proper amenities in this matter. Prospect even was reckoned of little account before the coming of Dutch William, when only the best houses were placed with reference to the available view. Many things which we take as a matter of course were undreamt of in the fifteenth century, when the stately creations of the Renaissance flourished on the Continent in all their grandeur, when men of

letters, giants of politics and geographical discovery, abounded, when Michael Angelo and Benvenuto Cellini excelled in fame. No retrospective glance at the picturesque, broadly considered, would be adequate without a passing reference to those brilliant times, but probably never a period existed of more extreme depravity, the age of poison and the dagger. Men and women broke the Ten Commandments well, and counterbalanced affairs by doing beautiful work equally well. Beauty was rigidly relegated by the Puritans of the Commonwealth, though shocking things were done with an air of sanctity. Extravagances continued *sub rosa*, as recorded by Pepys, in Stuart times and during the Dutch wars. These practices flourished under William of Orange when Sir Christopher Wren built that king's noble wing to Hampton Court Palace. Passing on, we reach the four Georges, and in this excursion we fall in company with our great satirist and painter William Hogarth, and we meet the less known George Crabbe of Aldeburgh, whom Lord Byron described as "nature's sternest painter and first poet of his time." These worthies with masterly hand painted with graphic vividness many amusing though terribly sordid doings in high life, as well as below stairs. Hogarth's grim realism, in his pictures of "Beer Street" and "Gin Lane," give an idea of public depravity which prevailed under Protestant rule after the failure of the notorious "Gin Act," when retailers did a roaring trade and advertised on signboards outside their shops inviting folks "to be drunk for a penny, dead drunk for twopence, or have a suck of Hollands through a straw for nothing." "The Reminiscences of Cambridge," by Henry Cumming, presents an intimate notion of morals and undeniably gross conduct which obtained in our universities of learning towards the end of the eighteenth century. In those parlous pagan days people held extremely meagre notions of public duty, and the majority had strange ideas about religion. Pews and "three deckers" in churches may have been picturesque, and incumbencies were treated as privileged freeholds. The pews owned by the rich were furnished like parlours to doze in, and the poor were relegated to "free seats." Before that move called "the Reformation," worshippers knelt or stood for the most part. The mural stone benches in church aisles were used by the sick and aged, hence the saying "the weakest go to the wall." No doubt in the fourteenth century many churches were furnished with elaborate stalls and benches, particularly in the West of England and East Anglia. A few admirable Jacobean examples, the forerunners of pew boxes of later days, may also be quoted, and very picturesque they are. Rolandson and Gibray, by their cartoons and coloured prints, leave no doubt about the flavour of affairs both in the Church and State in Georgian days. Wit was then ingenerate, sarcasm pungent, and humour bawdy. The story of "The Four Georges" by Thackeray bears witness, and to carry on further we recall the characters depicted by Charles Dickens, whose accounts of Marshalsea, the Fleet, and Newgate Prisons are not forgotten in company with Fagin, the picturesque practitioner Pecksniff, and Bumbledom, when workhouses furnished a landmark as a dire blot on our landscapes. This brief review will suffice to exhibit how desirable it is, in considering our architectural studies, to redress prevailing ideas concerning the relative conditions distinguishing periods of British manners both before and after the Reformation.

Much of the beautiful work already described belonged to the so-called "Dark Ages"; therefore, to appreciate the influence which inspired it, we must look fairly in the face outstanding facts and bring into account some things which, taken apart on their merits, might at first sight seem to be outside the limits of this subject. All that concerns humanities, however, does intimately matter as to their homes. To be practical, we cannot afford to ignore the best evidence obtainable of the normal affairs of our ancestors, and the circumstances during the ages when these picturesque houses and little hamlet churches were built. I am anxious to

carefully avoid authorities influenced by ecclesiastical predilections, and I therefore have chosen William Cobbett, who certainly cannot, with any degree of truth, be suspected of any such-like partiality or limitations. These are his words: "The general idea is that before Protestant times England was comparatively insignificant, having few people in it, and those few wretchedly poor and miserable. Whereas all the parishes about the land are still in point of size what they were a thousand years ago, except where they have been united, and two or three or four even have been made into one. Were churches formerly built and kept up without being wanted, and especially by a poor and miserable people? Was it a thinly populated and miserably poor people that could keep up a church to every piece of ground a mile and a half each way, besides having in the same county of Norfolk seventy-seven monastic establishments as well as 142 free chapels? It is a sign of augmented population, ease and plenty that out of 731 old parishes in Norfolk 263 have suffered the parsonages to fall into ruins and their sites to go waste?"

The last census prior to the present war brings our comparison up to date as nearly as can be stated. There were then 731 old parishes in Norfolk, ninety-seven of which made a return owing that each of them only possessed less than a population of 100 individuals.

The country side was well populated with a prosperous and happy people when the old houses of which we have been talking were built, and the ancient sanctuaries of England came to be set up. Of course the inhabitants had their troubles and limitations; fluctuations happened in families; the black death, and later on the small-pox, also plagues, wrought untold havoc; good seasons and bad harvests were experienced. Though the monks were landlords, they did not become rack-renting landlords and could not become absentee landlords. Before the days of the Reformation the Church was a world to live in, and not a building to go to; it was the centre of every parish, and churches were not only used for worship, but served for a variety of semi-secular purposes. Religion entered into the common life of the people. Church plays were picturesque, and Morris dancers let themselves "go." Some of the characters were far from refined in the tea-room sense, but the intentions of the players were healthy. When visualising the picturesque and considering the environment of such a community, always at war with necessity and emerging from the twilight of primitive conditions, it is necessary to take into account a few pertinent facts. They sculptured their demons as they handled their pets, and the last ordeal, the weighing of souls, constantly furnished a popular subject for mural decoration. Satan possessed at least an individual charm in a sense that in these plays performed in church our forefathers were enabled to turn the flank of terror by forcing a merry and even jovial acquaintance with the unseen world expressive of something more vivid by being based upon a reliance of hope which anyhow certainly is absent in the cold unpicturesque dignity of despair of our modern funerals.

Whatever the picturesque extravagances of the Mediaeval church plays, they were incomparable with the bald directness and dirty drolleries which distinguished the seventeenth century drama as best represented by sparkling Congreve and his emulator, William Wycherley. Their patron in chief was the beautiful Barbara, Countess of Castlemaine, who ended her days in obscurity.

The picturesque open-air processions which marked Rogation days, and the quaint services held for the blessing of seed time and harvest as the seasons came round were interspersed by the festivals of "red-letter days." Think of the vast wealth of beautiful workmanship and artistic productions done everywhere at that period and compare them with the lifeless efforts of the "all butts" of our own time. "The yokel," as you call him, found what pleasures he had at home; he rarely travelled, and held the right of living on the soil inherited from the serfs. Open country was unknown, and England was so densely wooded that it was said a squirrel

* Paper read before the Royal Society of Arts on February 20, 1918.

† Cambridge University Press, 1917. 10s. 6d.

could traverse the kingdom without touching the ground. Witches and outlaws haunted the forests to the injury of loyal liegemen, but, notwithstanding, Shakespeare assures us the magic of the British woodland was "more free from peril than the envious court." Shakespeare, ever inspired with serene stagecraft, transferred his loved forest scenes from play to play. "Back to the land," he urges again and again because he knew it well, and his care for human sins was a simple return to nature.

Long enough after these days reads all over England were very bad and unkept. Folks continued to regard strangers from the more modern shires as "foreigners," but it is a mistake to say that the population was poor and miserable, or unable to have a say. During the tumults which arose out of the political move dignified by the name of "The Reformation," Keit the Tanner, of Wymondham, got together an army corps of 20,000 men, angry fighting fellows, in 1547, encamped on Mousehold Heath, over against Norwich, and this extraordinary assembly proved that these peasants were anything but downtrodden varlets. Norfolk has some of the largest and most beautiful churches in England, and the native artificers would be difficult to match nowadays with all our educational schemes and architects or schools. The people who did such work were not priest-ridden, neither was the country sparsely inhabited. The vast mortality during the black death and subsequent plagues proves the fallacy of such assertions. The evidence of ancient parochial buildings, homesteads, and farmhouses, manors, barns, and rural domestic remains as well as monastic premises has been overlooked in dealing with our national affairs, methods of construction, and the environments out of which these buildings were evolved.

(To be continued.)

PROFESSIONAL AND TRADE SOCIETIES.

FACULTY OF SURVEYORS OF SCOTLAND.—The annual general meeting of the Fellows of the Faculty was held last Wednesday at 117, George Street, Edinburgh, Mr. Thomas Fairbairn, president, occupying the chair. The annual report of the General Council and General Examining Board for 1917 showed that there were 167 members on the roll. Representations had been made to the Ministry of Munitions with the object of having contracts for Government work undertaken on a more economical basis. The funds at the credit of the Faculty at December 31 amounted to £1,236. Mr. John Murray, Glasgow, and Mr. Robert Jerdan, Edinburgh, were appointed president and vice-president respectively. Mr. W. Johnstone, writer, 150, St. Vincent Street, Glasgow, was appointed secretary and treasurer.

LONDON AND MIDDLESEX ARCHAEOLOGICAL SOCIETY.—Sir Edward Brabrook, C.B. (President) took the chair on Tuesday week at the annual meeting at the Bishopsgate Institute. Mr. Deputy Pitman, treasurer, announced that the financial position of the Society had improved, there being a balance of £117. The Chairman, in moving the adoption of the report, said that, having regard to all the circumstances of the time, it was a very great thing indeed for the Society to be able to report progress. He complimented Mr. C. W. F. Goss on his excellent work. (Hear, hear.) Mr. W. A. Cater, F.S.A., F.R.Hist.Society, and Mr. William Dale, F.S.A., F.G.S., were added to the council.

Mr. Robert Bridgeman, an ecclesiastical sculptor and stone-carver of some note, died at Lichfield last Thursday in his 73rd year. He and his firm carried out much work at Lichfield Cathedral and elsewhere throughout the kingdom.

The new out-patients' department at Stockport, which completes the second portion of the King Edward VII. commemoration scheme for the extension of the infirmary, has been opened. Mr. Percy Worthington was the architect, and the builders were Messrs. Endie and Co., Stockport.

Building Intelligence.

DUBLIN.—New premises are in course of erection for the Irish Agricultural Wholesale Society, Limited, 151-156, Thomas Street, Dublin, from the designs of Messrs. W. M. Mitchell and Sons, M.R.I.A.I., 18, South Frederick Street, Dublin. — Messrs. Beckett and Medcalf, Clare Street, acted as quantity surveyors, and the general contract is being carried out by Messrs. Alex. Frazer and Co., Gloucester Street. The building has a frontage of 89 ft. 9 in., and a depth of 40 ft. When completed it will have, together with the existing building, a total frontage of 122 ft. 3 in. With the exception of the front the construction throughout will be carried out in reinforced concrete, the British Reinforced Concrete Engineering Company's bars and fabrics being used. The front will be of brick with cast concrete dressings, and the pilasters on the ground floor will be in red and green polished granite.

LANCASHIRE.—At the annual meeting of the Liverpool Diocesan Church Building Society it was stated that at present 11 schemes are on foot for the erection of new churches. These include a new church at Queen's Drive, Wavertree, for which £10,000 is lying at interest; St. Philip's, Litherland, for which £6,000 is in hand; St. Michael's, Blundell-cunds, for which a substantial sum had been subscribed; All Souls', Southport; St. Nathaniel's, Fazakerley; Orrell, near Wigan; St. Helens; Whelley; and at Farnworth. Plans have been prepared for the erection of church buildings at St. Mary's, St. Helens; Abram; St. Mark's, Edge Lane; and Ainsdale. The people of Scarisbrick contemplate the erection of a mission church.

LINCOLN.—Bracebridge Hall, which on Saturday was opened as a club by General Sir Wm. Robertson, was formerly the residence of the late Mr. F. J. Clarke, an ex-Mayor of Lincoln, and of "Blood Mixture" fame. The building cost £20,000, and stands in four acres of ground. Messrs. Wm. Foster and Co. acquired the property for their employees, and they have equipped and furnished it at a cost of £5,000. As a first instalment the club will house sixty-eight residential members. The club contains ample bedroom, residential, and restaurant accommodation, a billiard room, music room, reading, writing, and card rooms, all furnished.

By not sweeping main roads on Sundays Wandsworth Council will save £800 a year.

A scheme is under consideration for extensions at the grammar school, Rivington, near Horwich.

Mr. E. J. Lovegrove, borough surveyor and electrical engineer of Hornsey, has received an increased war bonus, making his salary £650.

The next ordinary general meeting of the Surveyors' Institution will be held at 5 p.m. on Monday, April 8, when Mr. E. H. Selby (visitor) will read a paper entitled "The Cost of Building Now and at the End of the War."

An effort is being made to secure the well-known Halifax landmark, Wainhouse Tower, called also the Octagon Tower, for presentation to the municipality as the property of the town. The Tower, with the three acres of land, is in the market, and the scheme is to acquire it by means of 1s. subscriptions, the highest contribution being limited to 10s.; £1,000 is required.

The authority to make orders regulating or restricting the carrying on of building and construction work under Defence of the Realm Regulation 8E has been transferred by Order in Council from the Minister of Munitions to the Minister of National Service. All applications for licences under Order XIV. of July 14, 1916, should in future be addressed to the Secretary (L), Ministry of National Service, S.W.1.

Sir Alfred Keogh was welcomed back to the Rectorship of the Imperial College, Kensington, last Wednesday, and a resolution was passed expressing pride in his distinguished services as Director-General of the Army Medical Service for three and a half years. In his reply he said that in this country alone administration was divorced from science. When Director he had relied entirely upon scientific men.

Correspondence.

INDUSTRIAL HOUSING.

To the Editor of THE BUILDING NEWS.

Sir,—We are very much interested in the articles which have recently appeared in your paper on this question, and more particularly in your notes on the Northern Area Competition, and in the illustrations of the London County Council's scheme at Millbank and elsewhere.

We have carefully studied the Local Government Board's report and the bulkier report of the Board of Agriculture, also numerous publications of private architects, garden city associations, etc., etc. In our humble judgment many of these reports and recommendations are erroneous, as they imply that the betterment of the working class can be done by grafting on them the habits and conditions of the class immediately above them, and your criticism on page 161 apparently coincides with ours. For instance, most schemes seem to imply that the labourer must have a large living room and be compelled to use it. Our experience of the matter is that generally the labourer has no time or inclination to clean himself up in the evening and to sit in his best room, that on Sundays he does like to be clean and well dressed, and then he likes to use a suitable parlour. It is common knowledge that if he has a large living room and a small kitchen he will invariably use the small kitchen through the week, and if there is a still smaller scullery he will probably use this instead of the small kitchen; this is surely perfectly natural and fitted to the necessities of his life, yet a bureaucratic authority seems to be determined to infringe this right of the individual.

There are, of course, few variations possible in the arrangement of five-roomed cottages; therefore, all designs must necessarily repeat themselves, unless variation is sought by throwing out unnecessary and unsightly gables and ornamentations.

We understand that it is proposed that the nation should give a large subsidy towards the cost of building the new cottages; this we regard as an evil, although it may be a necessary one. The subsidy comes out of the national pocket, and is paid for by everybody, but its benefits are restricted to the comparatively few families who will occupy the new cottages.

In our view, efforts should rather be directed to build cottages suited to the habits of the tenants, with a slight but insistent pressure on the latter to make these habits more and more hygienic, and also that these cottages should be constructed at such prices that the interest on the capital, depreciation, repairs, and the necessary rates are entirely covered by such rent as the tenant can afford to pay. If present methods of construction materials, etc., do not permit this, efforts should be made to find and adopt fresh methods and fresh materials which shall do this.

We do not think we have any particular axe of our own to grind in the matter, because, although we are concrete people, there is such a vast outlet for concrete just now as to absorb all our energies. At the same time we know so well, and esteem, the enormous capabilities of concrete that we think it is the greatest pity that more attention should not be focussed on this material.

We find everywhere the greatest prejudice against the use of concrete for houses. The Local Government Board does not mention it, except as a support for wood floorings, but takes pains to recommend brickwork. Most architects look askance at the mention of concrete for cottages, or if they agree to its use for walls they insist that a red tiled roof must be supplied, forgetting that the latter demands timber, labour, and plumbing of some sort. They say that a concrete roof cannot be watertight, and that the walls and ceilings will sweat. We have not observed, however, that their adored red tiled roofs are particularly watertight, but no one thinks of sweeping them away because occasionally men on ladders put in a merry time repairing them. A concrete roof constructed on proper principles will never leak, and if it does, a crack is easily and permanently repaired.

Brickwork consists of carefully moulded pieces of burnt clay carefully laid by hand in mortar. Its use may be ten thousand years old. Concrete consists of artificially broken rock or gravel deposited in place with mortar in a semi-fluid condition, and needing only slight stirring at the time of deposit to set as hard as the granite rocks, with a great deal more than their ultimate durability; these are well-known incontestable facts. Nature in tens of thousands of years has formed the sedimentary rocks; by a somewhat similar process, man by his application of the law of cause and effect achieves an even better material in the course of a few days, just as it took man but a few years to make a flying machine, while it took Nature eons of time to make a flying lizard.

Why keep back the clock of man's progress? Why confine us to the methods of our remote ancestors? Why insist that in every cubic yard of walling some 500 bricks, each one carefully made to pattern before hand, shall be carefully laid by plumb and line in position, when gravity can be relied upon to place automatically the materials of concrete in proper position? The use of brick involves a structure with a multiplicity of joints. The inhabitants of a distant and progressive planet might think we were playing practical jokes if we gravely proposed to construct a dwelling-house for him on such a principle, yet inasmuch as concrete has only arisen with the needs of civil engineering during the last hundred years, the only possible construction for building, until recently, has been the use of separate and independent blocks of brick or stone, laid carefully in place on beds of mortar.—Yours faithfully,

TRENT CONCRETE, LTD.

E.F.S.

Nottingham.

"THE GATE OF REMEMBRANCE."

Sir.—My attention has been drawn to your kind notice of my book "The Gate of Remembrance," which appears in your issue of the 13th inst.

It may, perhaps, be worth while to draw attention to the mistake which has been made in the author's name, and which has confused my identity with that of our much-lamented colleague Mr. Francis Bond, M.A., whose death last month the whole professional body deplores.

As the author of "Rood-screens and Rood-lofts," I have the more readily been identified with my more distinguished brother in literature, inasmuch as he, by a curious coincidence, published his "Screens and Galleries" in the same year.—I am, dear Sir, yours faithfully,

FREDK. BLIGH BOND,

Director of Excavations at Glastonbury Abbey.

25, Sydenham Hill, Bristol.

February 26, 1918.

Huddersfield and district operative plumbers have been granted an advance of 2d. an hour from March 1.

The building committee of the Tullamore Technical School have decided to proceed with the erection of suitable premises, according to plans prepared by Mr. T. McNamara, architect. It is hoped that the work will be completed by August next.

Staff-Sergeant Robert Taylor has been appointed borough surveyor of Haslingden, where he served as a pupil and was deputy surveyor when he enlisted in the Sanitary Corps, three years ago. The Town Council have failed to obtain his release from the Army, but the appointment stands.

The body was found on the Midland Railway, near Matlock, yesterday week, of Mr. James Mitchell Hewitt, consulting engineer, of Hale, Cheshire. Deceased, who was about sixty, had in his possession a ticket from Manchester to London. He apparently fell from an express on the previous Monday night.

The Brazilian Government has ordered the construction of national workshops at Puerto Belem, where timber-carrying ships will be constructed, at high speed, intended for coastal trade, and will carry cargoes to the northern States, to Santos, and to Rio de Janeiro, whence they will be transhipped for Europe by Lloyd's Brazilian branch. The State of Para will be able to export some millions of tons of wood annually to the Allied countries.

Our Office Table.

Mr. Hayes Fisher, President of the Local Government Board, addressing a meeting of the County Councils Associations, in London, last Wednesday, said that everybody was conscious of the terrible shortage of houses, especially for the working classes. The Local Government Board would extend substantial financial assistance to local authorities for these purposes, so that it would involve very little burden upon the rates. He was in favour of a Ministry of Health, but when the question was discussed people seemed to forget the excellent work that was now being done in regard to health by local authorities. County councils would be given further powers, including the provision of laboratories for scientific diagnosis and greater hospital accommodation.

A correspondent of the *Liverpool Post and Mercury* asks how many of the millions of persons who have passed by or visited St. Peter's Church in that city have observed that the edifice has four different designs of doorways? The church was built in 1702-4, and it is believed that the committee, in order to make a selection of doorways, sent to London for "patterns." Four were received, and it is seriously alleged that the committee used the four different samples for the four main doorways.

Mrs. Pankhurst, who has visited the Cardiff City Hall to see the exhibition of housing plans invited by the Local Government Board, says she has been disappointed. She had hoped to see some ideas of comfort and co-operation applied to the new movement, but what she did see were representations of some more or less glorified cottages or attempts at the kind of villadom to which they became accustomed for the middle classes in the latter years of the nineteenth century. There was nothing there to reduce the dullness of domestic toil or to eliminate the present waste of effort. She only saw provision for more and not less work for women in those new dwellings, and she appeals to Cardiff not to commit itself to the spending of vast sums of public money on houses planned on those lines.

"Concrete Cottages, Small Garages, and Farm Buildings," by Albert Lakeman, M.S.A., M.C.I. (London: 4, Catherine Street, W.C., 5s.), is a useful compilation, and will be of service to those who adopt concrete, which is not the "ideal material," as the author thinks, or, indeed, "the one material" in which local conditions can be taken full advantage of, has its legitimate attractions, and need not always be hideous, as is sufficiently proved by Mr. Arnold Mitchell's concrete cottage illustrated on page facing page 140, and which compares favourably with some others shown, which nevertheless will doubtless be preferred by some building authorities.

"Lockwood's Builders' and Carpenters' Price Book, 1918" (London: Crosby, Lockwood and Son, 4s.), is, as usual, brought up to date in all respects, except, of course, as regards prices, in which, as the editor pathetically complains, there is no finality. As hardly a week passes in which we do not receive complaints—from buyers as well as sellers—that our own list of latest prices contains "errors," it is obvious that lists issued once a year must be still more heavily handicapped. The truth is that to some extent prices are often "nominal" when, as on the Stock Exchange, there are no transactions to test them or no stocks on the market. Thus it happens, even to-day, that a buyer is sometimes able to buy under quoted prices, and that a merchant who has no special desire to sell will not do business on their basis. The only end to this can be that of the war, and the speedy freedom thereafter of our industries from the grip of the official controllers, and then once again reliable lists of prices will be possible, and publishers of standard reference books like "Lockwood's" will reap the reward of their persistent efforts to keep as well as may be abreast of the terrible time we are all having.

It is announced that "Gloriosa," the famous "Emperor's Bell" in Cologne Cathedral, is being removed from its position to be converted into grenades for use against the French. The bell, which is the largest in the German Empire, was cast from the fusion of 22 cannon taken from the French in 1870, and weighs 27 tons—some ten tons more than the great bell of St. Paul's. It was hung in the south tower of the cathedral, and was only sounded under very exceptional circumstances. During 1888 it was tolled twice within the space of a few months—on the death of the Emperor William I. on March 9 and of Frederick III. on June 5. Its removal at the present time is regarded by many (according to a writer in the German-Swiss Press) as symbolic of the decline of the Imperial power, much in the same way, probably, as the discovery a few weeks ago of a perfect statue of Victory on the Palatine Hill is regarded by the Italians as a presage of the sure triumph of the Allies.

The terms "engineer" and "engineering" must soon be defined by law. The engineer may have a profession, but he has no well-defined field of service or activity, says Mr. C. T. Johnston in a paper read recently before the Western Society of Engineers of America. Some qualifications are prescribed for practice in other professions. Any person who possesses sufficient self-assurance may call himself an engineer, and employers cannot discriminate, because they cannot judge of the quality of the service performed. The barber, bricklayer and the plumber have definite fields of activity—not so the engineer. Various kinds of work that he has claimed for many years are being taken from him by professions that are already recognised under the law and by others which have no professional qualifications.

It has been decided to erect in London a memorial to the late Earl of Cromer—the Sir Evelyn Baring of earlier days—whose long official association with Egypt and Egyptian affairs, first as Commissioner of the Public Debt and later as British Agent and Consul-General, was an outstanding feature of the concluding years of the Victorian era. It is possible that this memorial will take the form of some suitable tribute in Westminster Abbey, or, failing that, in St. Margaret's, Westminster, the historic "church of the Parliament." The fund for giving effect to the project is in the hands of Mr. Richard P. Maxwell, C.B., who recently retired from the Foreign Office, where he was acting senior clerk.

Sir Aston Webb gave a lecture at a meeting of the London Society in the rooms of the Royal Society of Arts, Adelphi, last Friday, on "The Future Development and Improvement of London." The Mayor of Kensington presided in the absence of Dr. Addison, Minister of Reconstruction. At the close of the lecture, which covered the same ground as the address delivered by Sir Aston Webb before the Royal Geographical Society on February 11, there was a short discussion. Sir Lionel Earle, Secretary of the Office of Works, expressed the opinion that there ought to be some central controlling authority to deal with questions of architecture in London. He did not ask for a Government authority; it would probably be more of a municipal affair. Personally he would like to see the squares opened to the public, kept municipally, and made attractive centres for children.

The Committee on Production and the Special Arbitration Tribunal have given the following decision in connection with the case of building trade operatives engaged on the construction of Government buildings which had been referred to them by the Ministry of Labour: "Plain time workers are to receive a bonus of 12½ per cent. and piece workers a bonus of 7½ per cent. on earnings from first pay in January, 1918. The award applies to men in the employment of the Ministry of Munitions, Air Ministry, Office of Works, Admiralty, and War Office. In the case of men not in the direct employment of these departments, the departments are to authorise their contractors to pay the advances to the men in the employ of the con-

tractors engaged upon the erection of buildings for the departments."

A Women's Sub-Committee of the Advisory Council has been appointed by the Minister of Reconstruction to collect information and to give advice on house plans from the point of view of the housewife. The members of the Committee are: Lady Emmott, chairman; Mrs. E. Barton, of the Women's Co-operative Guild; Mrs. Victor Branford, of the Housing Organisation Society; Miss A. Churton, of the Rural Housing and Sanitation Association; Dr. Janet Lane Claydon, Dean of the Household and Social Science Department, King's College for Women; Mrs. Sanderson Furniss, of the National Women's Labour League; Mrs. G. S. Guy; Mrs. C. S. Peel, of the Ministry of Food; Secretaries, Miss Leach and Miss Waley, of the Ministry of Reconstruction. The duties with which they have been entrusted are, briefly, to examine specimen houses and to advise on house plans received from the Architects' Committee. They will also report on such questions as internal fittings, position of doors and windows, size and number of rooms, gardens, communal arrangements, and the laying out of new districts in so far as it may affect the well-being of homes and the convenience of housewives. The Committee have already begun their duties, and they have inspected houses on the Kennington estate of the Duchy of Cornwall. The Women's Labour League is also conducting a housing campaign. The opinions of working women on structural arrangements for convenience and comfort in a home have been invited by questions printed in a leaflet which has been distributed with architects' plans for a house to accommodate a family of five or six persons. The Central London branch of the League held a Conference in Kingsway Hall on Saturday, and after discussion a resolution was passed requesting the Local Government Board, before sanctioning any plan of housing, to consider representations from working women on interior construction.

A committee has been appointed to consider the building of a cottage hospital to serve the Halesowen, Birmingham, rural area.

Seven Hepplewhite chairs bought under the hammer in the Isle of Ely fifty years ago for 4s. each were sold at a Cambridge auction on Thursday for £250.

The Dewsbury Corporation have refused to raise the salaries of the town clerk and the borough engineer, but have given the chief constable an increase of £50 a year.

Mr. F. W. Jackson, whose death is announced, was one of the best-known of recent Manchester landscape painters. He was born in 1859 at Middleton Junction. Beginning his art education in Lancashire, he was afterwards a student in Paris. He was at one time a member of the Royal Society of British Artists, and he exhibited at the Royal Academy, the New English Art Club, and elsewhere, besides being a notable contributor in recent years to the exhibitions of the Manchester Academy.

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TENDERS.

*Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender: it adds to the value of the information.

FOREST HALL (NORTHUMBERLAND).—For supplying during the next twelve months hand-broken whinstone for repair of roads.—For the Longbenton Urban District Council.—W. Bean, highway surveyor:—

Ewesley Quarry Co., Ltd., Sand-	hill, Newcastle-on-Tyne	£863 4 11
Richardson, J., Little Mill Quarry,	Little Mill, Northumberland* ..	859 14 3
Northumberland Whinstone Co.,	Milburn House, Newcastle-on-	Tyne*
Accepted, each to supply 50 per cent. of require-	ments.	

KILMATHOMAS.—For new offices in Kilmathomas, for the National Banking Company and the Ulster Banking Company:—
John Hearne and Son, South Parade, Waterford (accepted).

LONDON, E.C.—For work and materials, for the Metropolitan Asylum Board:—

Northern Hospital, provision of bed-pan sinks in pavilions 1, 2, and 6, A. H. Inns, £98 13s. 4d.; Queen Mary's Hospital, installation of electric motor and power bench for driving sewing machines, Rhodes Motors, Ltd., £20 13s. 6d., and Singer Sewing Machine Co., £35 15s.; Eastern Hospital, extension of hot-water service to serve wardmaids' new dormitory blocks, Wenham and Fowler, £31 5s.; Eastern Hospital, supplying and fixing new hot-water supply boiler for discharge block, Wentner-Smith, Gray, and Co., £48 5s.; Brook War Hospital, repair of iron girder of weighbridge at entrance gates, W. and T. Avery, Ltd., £42; Leavesden Asylum, supply of two new hot-water boilers for sculleries of blocks 4 and 12, Wentner-Smith, Gray, and Co., £42 16s.

LONDON.—For stone stairways of City and Queen's Mansions, Metropolitan Cattle Market, for the City Corporation:—

Bradford, E., and Co.	£446 18 0
Stuart's Granolithic Co.	383 1 4
Lidstone, N., and Sons (accepted) ..	317 10 0

LONDON, S.E.—For fitting up a central kitchen at the Kennington baths, for the Lambeth Borough Council:—

McDowall, Steven and Co., Ltd.,	4, Upper Thames Street, E.C.2, £2,105 1 6
Sumerling and Co., Ltd., 63, Bun-	hill Row, E.C.
Carron Co., 15, Upper Thames	Street, E.C.
Falkirk Iron Co., Claven House,	Kingsway, W.C.
Accepted,	753 0 0

WAKEFIELD.—For paving Park Hills Road, laying surface drains, and other work, for the corporation:—
J. P. Wakeford, M.I.C.E., City Engineer:—
Parker and Sharp, Peaseholme Green, York (accepted).

WEST HAM.—For addition to kitchen at Odessa Road School, for the West Ham Town Council:—
Perry, H. J.

WINGATE (DURHAM).—For installation of electric light in the Primitive Methodist School, Blackhall:—
Charlton, A., West Hartlepool

Paul, J. R. and G. H., Bear Park

LIST OF TENDERS OPEN.

ENGINEERING.

March 11.—Construction and maintenance of a ferro-concrete built superstructure for cold stores, Avonmouth Docks.—For the Docks Committee.—Secretary of the Docks Committee, Docks Office, 19, Queen Square, Bristol.

March 12.—Supplying and erecting a water-gas plant capable of producing 200,000 cubic feet per 24 hours of high-grade or low-grade gas.—For the Scunthorpe Urban District Council.—G. E. Davy, Clerk, 110, High Street, Scunthorpe.

March 30.—The Acting British Consul at Santiago reports that a decree has been issued calling for tenders for the improvement of the port of Antofagasta (Chile). By the terms of this decree the amount to be expended on this work must not exceed £1,700,000. Details may be obtained from the Port Commission Offices in Santiago, and copies are expected to be received shortly at the offices of the Chilean Legation in London, 22, Grosvenor Square, W.1. Tenders will be received up to 3 p.m. on March 30 by the Minister of Finance, Santiago.

ROADS AND STREETS.

March 9.—Diverting road and stream at Addiewell, Scotland. Plans, etc., on view at Addiewell Chemical Works.—Tenders to R. W. Meikle, Secretary to Young's Paraffin Light and Mineral Oil Co., Ltd., 7, West George Street, Glasgow.

March 11.—Supplying, during next twelve months, 300 tons or more of 2-in. and 1-in. tarred slag and 1-in. tarred slag topping and slag dust, delivered free on rail or at the goods stations in Dunstable.—For the corporation.—W. F. Wilkins, Town Hall, Dunstable.

TRAMWAYS.

March 12.—Supply of (1) permanent way special track, (2) rail bonds (copper).—For Tramways Committee.—Specifications, etc., from J. M. McElroy, general manager, Corporation Tramways, 55, Piccadilly, Manchester. Tenders to Chairman of Tramways Committee at same address.

The Roman Catholics of Bolton propose to erect a school at a cost of £5,000 to perpetuate the memory of the Rev. Dean Averdonk.

The wages of journeymen painters in Ashton, Stalybridge, Dukinfield, and district were last Thursday increased from 1s. to 1s. 3d. per hour.

Last year the rental of the Bridge House Estates was £164,500. From those estates London Bridge, Blackfriars Bridge, and the Tower Bridge have been erected, and large sums have been spent on the purchase of Southwark Bridge and the widening of Blackfriars and London Bridges and their approaches. The estates are also charged with the maintenance and support of all these bridges.

Anticipating a timber shortage, the general manager and chief engineer of the Great Eastern Railway arranged for a supply of sleepers from the pine forests in the south of France, to be delivered on the quay of Bordeaux. Soon after the first ship-load was ready for transhipment to England the British Government authorities asked to have the timber transferred to them. They have been so pleased with the quality that they have asked the railway company to relinquish the whole of the contract in their favour, and this has been done, as the timber was for the armies in France.

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LONDON.

THE BUILDING NEWS

AND ENGINEERING JOURNAL.

Effingham House.

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OUR ILLUSTRATIONS.

"Stonehouse," Johannesburg, the South African residence of the Architect, Mr. Herbert Baker, F.R.I.B.A. Two exterior views and two plans.

Tunbridge Wells Technical Institute. Detail photograph of the main entrance and two plans. Mr. Henry T. Hare, F.R.I.B.A., President of the Royal Institute of British Architects. Mural Tablet, Lowther Castle Chapel, Cumberland, to the memory of the Right Hon. Sir Gerard Augustus Lowther, Bart. Messrs. Ambrose Poynter and George H. Wenyon, Architects.

Currente Calamo.

A word or two in reply to several kindly readers who have written sympathetically in regard to the present unprecedented difficulties we and most other papers are labouring under with regard to our paper supply may explain to others who complain that they are unable to buy this journal unless they order it regularly from their newsagent or subscribe directly and get it, as they may do, post free from the office. It is not merely because paper has risen so exorbitantly in price that we have been compelled to reduce our size, increase our price, and refuse advertisements—three things which would appear the most suicidal courses under ordinary circumstances that any newspaper could pursue. The main trouble is entirely due to the unfair and unwise action of the Paper Commission. In 1916 we were limited to a supply of two-thirds the quantity we had used during 1914. It was supposed that all consumers would be treated alike, and so be enabled to make the best of things. They were not. Licences to import paper were granted to others than consumers, and some of those who got them and did not want paper made money by the sale of the licences, and those who bought them were enabled to get more than their fair allowance of paper. Moreover, when, in 1917, we were limited to half our supply in 1916, and up to March 1 last, when we were reduced to one-sixth of our pre-war supply in 1914, the traffic in licences was still permitted, those of us who obeyed the regulations in spirit and letter have helplessly seen other journals which had flouted them publishing big numbers and able to take all advertisements they could get. Now the sale of licences is to be stopped; but consumers who bought them, and so were able to outstrip their law-abiding rivals, are still apparently to get half the quantity of paper they have hitherto illegitimately been able to procure. Now, if this had been done in connection with food, the offenders would have been fined or imprisoned for "hoarding." As it is, unless the new Paper Controller reverses the policy of his predecessors, equal treatment to consumers of paper seems as far off as ever, and our efforts to do the best

under circumstances penalised to an extent which no other industry has been subjected to.

Covenants to repair are now being found more burdensome than ever, owing to the high prices of labour and materials. Yet, where a lessee and his sub-lessee are interested in a London house of the usual sort which is over sixty years old, and going from dilapidation to decay, with the freeholder pressing for forfeiture, the problem must be faced. Is it worth while to do the repairs and save the lease, or would it be wiser to let it go? Such was the real question in the recent case of "Hurd and others v. Whaley and others" in the King's Bench Division, which is full of instruction for parties in the same position. The plaintiffs were owners of land in Battersea on which five houses had been built in the usual way: a lease being granted for 98 years from 1863 at a total ground rent of £17. The plaintiffs now sued for possession because of the lessee's breach of his covenants to repair. The defendants were the lessee and the sub-lessee, and both sought relief from forfeiture so as to save what was left to them as their interest in the property. The houses were 65 years old and had been allowed to fall into a bad state. They were let to weekly tenants, and the landlord paid rates and taxes. The defendant lessee could have relief if he did all repairs required by plaintiffs' surveyor and paid all costs and expenses. But he doubted whether this was worth doing at present prices. So the sub-lessee, as to two of the houses which he held under the same covenants regarding repairs, desired to save his bit if possible. Of course, if the lease were forfeited the sub-lease would also go. It was argued that under the decided cases the court had no power to grant relief to a sub-lessee who had himself broken his repairing covenant. But Mr. Justice McCardie, who heard this case, took his own line, and did not agree with the earlier judgments. So he ended by granting the lessee a few days' further time in which he could consider whether his lease was worth the cost of the repairs, etc., and he ruled that, if the lessee did not so save his lease, he would deal with the terms upon which the sub-

lessee of the two houses should have relief. This is a just and commonsense view of the position, and the decision should be found of value to the many other sub-lessees who are, or may be, in the same difficult dilemma in regard to aged house property.

The Institution of Municipal and County Engineers has had under consideration the question of the liability for the damage to roads which has been and is being caused by timber haulage. Upon consideration of a letter received from Mr. G. H. Jack, the county surveyor of Hereford, on the subject, the council passed a resolution expressing the opinion that the Government should accept the liability for road damage by timber haulage when approved by the Timber Control Committee in the same way as the Government accepts the liability for damage by extra military traffic. Copies of this resolution have been sent to the Road Board, the Timber Control Committee, the Road Stone Control Committee, and the War Office, and the suggestion will surely be accepted by the authorities. Traffic of the kind is certainly extraordinary traffic, and why local ratepayers should be saddled with heavy repairing costs of the highways, which are doubtless quite necessary, being worn out by national use, and the repair of which is starved down to zero, it is difficult to understand.

In an article in *The Federationist* Mr. W. A. Appleton says that while the present hostility shown by the workman has some justification, the workman realises, on the other hand, that the war has broken down many barriers, that a common intercourse with danger and death has stripped employers and workmen of many misconceptions and has brought the manhood in each into closer communion. The workman fears, however, that as the cause of the change passes so the effect will diminish and that attempts will be made to reimpose the old relationships. A new spirit is necessary; for, while capital has adhered to the spirit of what is known as the Manchester school, labour has, rather blindly and without analysis, accepted many of the ideas as expressed by Karl Marx. If both sides could realise that success depends upon the com-

bination of materials, mentalities, and muscle, it would be possible to approach the future with some degree of confidence. Mr. Appleton thinks that the institution of a system of direct management of industry and commerce by the workers engaged in the workshops has many advocates, but a departure on these lines could not be regarded as a course likely to secure the best post-war results. This demand is of political rather than industrial origin. It involves an immediate and non-compensatory appropriation of capital and wealth. It assumes a knowledge not merely of industrial processes, but of commercial enterprise and international exchanges. Mr. Appleton says he has met some workmen who hold these views. They are admirable workmen; many of them are intelligent, and some of them possess knowledge, but he cannot say that any one of the advocates of this method he has met is at once an admirable workman, an intelligent person, and possesses an effective knowledge or understanding of the international character of trade, and that experience which is necessary to make international trade a success.

Mr. Adrien Beaudry has introduced into the Quebec Legislature a Bill affecting the status of civil engineers in the province. The Bill, which is not in any way promoted by the Canadian Society of Civil Engineers, provides penalties against any person who, not being the holder of a civil engineer's diploma obtained under the laws of the Province of Quebec, practises the profession of civil engineer, usurps the functions of the profession, or does or claims to do any act connected therewith, or assumes verbally or otherwise the title of civil engineer, or makes use of any abbreviation of such title, or of any name, title, or designation which might lead to the belief that he is a civil engineer or a member of the Canadian Society of Civil Engineers, or advertises himself as such in any way or by any means, or acts in such manner as to lead to the belief that he is authorised to fulfil the office of, or to act as a civil engineer. Such person shall be liable, on summary conviction, to a fine of not less than \$100 nor more than \$200, or in default of payment to imprisonment for not more than three months for the first offence, and to a fine of not less than \$200 nor more than \$500 or imprisonment for not more than six months, for any subsequent offence.

The sixty-ninth annual report of the Prudential Assurance Company for the year ending 31st December, 1917, is a wonderful testimony to the continuance of a prosperity which no war troubles seem to have affected. In the ordinary branch the number of policies issued during the year was 56,502, assuring the sum of £6,951,269, and producing a new annual premium income of £567,472. The premiums received were £5,495,205, being an increase of £265,035 over the year 1916. The claims of the year amounted to £4,852,409, of which £398,385 was in respect of war claims.

The number of deaths was 14,629. The number of endowment assurances matured was 28,430, the annual premium income of which was £152,559. The number of policies including annuities in force at the end of the year was 934,075. In the industrial branch, the premiums received during the year were £9,376,858, being an increase of £479,135. The claims of the year amounted to £4,352,031, of which £1,109,240 was in respect of 65,665 war claims. The bonus additions included in the claims amounted to £38,710. The total number of claims and surrenders, including 22,078 endowment assurances matured, was 402,635. The number of free policies granted during the year to those policyholders of five years' standing and upwards who desired to discontinue their payments was 56,880, the number in force being 2,009,872. The number of free policies which became claims was 51,290. The total number of policies in force in this branch at the end of the year was 21,730,468; their average duration exceeds thirteen and three-quarter years. The war claims of the year, in both branches, number 70,488 and amount to £1,507,625. The total paid up to the present on this account since the outbreak of war exceeds £3,400,000, in respect of over 160,000 claims. In the general branch, under the sickness insurance tables the premiums received during the year were £6,721, and £3,744 was paid in sickness claims. Sinking fund policies have been issued assuring a capital sum of £134,850 and producing an annual income of £2,663. The company is now empowered to act as trustee or executor, and during the year has commenced to transact this business. A very considerable amount of aircraft (personal injury) insurance has been undertaken with results which up to the present have been highly satisfactory. The total amount of premiums received on these contracts was £11,003, and the claims paid during the year amount to £627. In view of the difficulty of gauging the value of the unexpired risks on existing sickness and aircraft policies it has been decided to retain the whole of the general branch fund of £38,244 in reserve against liabilities. The assets of the company, in all branches, as shown in the balance-sheet, are £107,283,371, which, after deduction of the balance of £3,487,500 owing in respect of the advance from the company's bankers for purchase of War Loan shows an increase of £4,672,125 over 1916. The company's assets now total no less than £107,283,371, and it heads the list of the great corporations which have so liberally helped to finance the war by investment of no less than £9,500,000 during the past year in war stocks, making the Prudential's total holding of British Government securities £27,250,000.

Mr. L. B. Woodforde, formerly of the firm of Messrs. Woodforde and Wing, land agents, Stamford, has been appointed by Lord Sandwich to take charge of the Hinchingbrooke estates during the temporary absence of Col. Barkley, engaged on Government work. Mr. Woodforde is a member of the Land Agents' Society.

EXITS AND ENTRANCES.

Perhaps more attention is directed nowadays to the proper planning and provision of adequate exits and entrances to buildings of all descriptions than was the case some years back, when we had time and again to call attention to catastrophes resulting from the lack thereof; but a recent five minutes' block on the emergency stairs of one of the tube railways reminded us of more than one other structure in which more care might with advantage have been bestowed on this matter of supreme importance than at present guarantee freedom from accidents. It is worth notice, at the outset, that some of the best architects of the past have satisfied themselves with scrupulous, and perhaps (as far as it went) praiseworthy care for the architectural proportions of the doorway as a feature, without much regard to its adequacy as an exit. Chambers, for instance, lays it down that "if a door be placed in the intercolumniation of an order, the height of the aperture should never exceed three-quarters of the space between the pavement and the architrave of the order: otherwise there cannot be room for the ornaments of the door." Nor, he contends, "should it be much less than two-thirds of that space, for then there will be sufficient room to introduce both an entablature and a pediment without crowding." Further, he insists that the apertures of doors in arches must be regulated by the impost, and those near windows by the window apertures. Practically surely a complete disregard of the true principle of design, which certainly demands that the adequacy of any part of a building should determine the regulation of its architectural features.

In public buildings, at any rate, the accommodation and the rate of outflow of its frequenters should govern the size and number of its frequenters. There should never be less than two exits for 300 persons, or three for 500. Yet we still find churches built holding from 500 to 800 people with not more than two doorways, or with three, the two smaller of which are placed close together, or one on each side of the common central entrance. In such, if blockage due to accident or overcrowding, or panic results, converging streams of people struggle vainly to force their way through the lobbies out by a narrow arch or porch. Certainly in all places of public assembly, with only one side open to the street, holding 300 to 400 people, three adequate entrances should be imperatively demanded, and the arrangement, width, and length of passages and staircases rigidly controlled.

Special care should be taken that all cross and right-angled passages should be avoided, and that passages should be very little wider than the main entrances. In railway stations it is of very little use to divide a common staircase up and down which passengers are allowed to ascend and descend, merely by a handrail. At certain periods of the day one stream of traffic will always outnumber the other, and the units of the largest will defy any attempt to confine them to their proper route, as they do at one North London suburban terminus, where there will probably be a disastrous struggle one of these days.

Long flights of stairs should always be prohibited. They are allowed, however, with from 20 to 30 steps between two walls, and provided with only a handrail at one side. Down such, a false step may any day mean broken limbs, or the trampling underfoot of the victims of what it is mockery to call "accidents." Such staircases, moreover, should always be broken

by alternate landings, and winders should never be allowed. Doors at the tops of staircases are also danger-traps. Badly lit, as many such stairs are just now, people unaccustomed to them would often precipitate themselves down them, or be pushed down by the crowds behind. Sliding gates and doors are also objectionable—not always in themselves, but because they are often only opened halfway, as at the lifts in some of the tube stations, so that the collector may take tickets with more ease to himself or herself, but certainly not to the comfort of the passengers, who have to squeeze past him through the narrowed aperture.

One fact should always be borne in mind, and that is that a large, unbroken area without perfectly adequate exits and entrances is much more dangerous than one of equal capacity, but subdivided into parts, each with its separate exit. In the case of the building first mentioned, the rush cannot be controlled or directed, and so the main exit or entrance becomes the object of attainment by all, and confusion and danger are inevitable.

There are many good works of reference on various matters pertaining to building, but there is certainly room for a good one dealing with the matter we refer to. We have no really reliable data founded on actual careful observation of the rate of outflow from various buildings of known accommodation and the capacity of their outlets. We have no trustworthy guide to the proper position and adequacy of their desirable outlets and their communications. We get from time to time opinions mainly derived from isolated calamities, and sometimes, though well worth heed in the main, only based on one point of view. What is wanted is a classification of the different classes of buildings, and data and comparisons on which builders might arrive at some approximate rule for guidance.

ENGLISH MEDIEVAL WALL PAINTINGS.*

Although the subject of this paper is ecclesiastical wall painting in England during the middle ages, it will perhaps be as well to glance back as far as we can to the beginning, so that we can grasp in its simplicity the first idea of this art. There is no doubt that the tendency of people of all countries has been to decorate their homes with such skill as they possess or can command. That in pre-historic times the cave dwellers did so is instanced by the wonderful paintings, fragments of which still remain, upon the walls and roofs of the caves of Altamira in Spain. Illustrations of some of these you may remember seeing in our London illustrated papers six or seven years ago. But this is only one instance. Fragments of paintings have been discovered upon the interiors of other caves and rock dwellings in the south of Europe; and the bushmen of Africa—whom we may perhaps call modern pre-historic people—have similarly decorated the rock shelters and caverns which they use with coloured drawings of the chase and battles and herds of native cattle. It was left for a lady—Miss Helen Tongue—to visit the dwellings of these bushmen throughout Southern Africa. This she did some years since, and returned with a portfolio of copies made from the drawings, reproductions of which were published in 1909.

I mention these cave drawings in particular, because their existence emphasises the fact I wish to insist upon—that art in its most interesting forms and developments springs out of the life of the people, and is intimately related with their ordinary thoughts and pursuits. Thus, the cave dwellers of pre-historic times lived chiefly

by hunting; and their artists depicted the objects of the chase, with the hunters and their weapons. The bushmen of Southern Africa also lived a similar primitive life; and their pictures are of herds grazing and herds pursued, of fights between men, of headlong flight of both animals and men from beasts

of prey. It is all part of the normal life of the savage, depicted by one of the actors in unoccupied hours, possibly when sheltering from the inclemency of the weather.

Among civilised peoples, wall painting apparently was done in the earliest days of which we have record. Excavations during



Copy by E. W. Tristram of a painting in the Chapel of the Bishop's Palace, Chichester. The Virgin and Child. 13th Century. Victoria and Albert Museum.



Copy by E. W. Tristram of a painting on the Sedilia, Westminster Abbey: King Henry III., c. 1308. Victoria and Albert Museum.

the last few years on the island of Crete give us reason to believe that the walls of the palace of King Minos at Knossos were not only covered with paintings, but that the same medium—tempera—was used, as was used in the ecclesiastical wall paintings in England. The interiors of the Greek temples were painted, as doubtless the Grecian palaces were also. The Egyptians lavishly decorated the interiors of their tombs, which their mystic tendencies led them to regard as a more permanent home than the dwelling-places of their daily life. In Alexandria the fusion of Egyptian and Greek art would seem to have produced a magnificence of interior decoration in both public and private buildings; and its influence descended to Pompeii, where it received that additional sumptuousness which was so characteristic of the Roman mind. In Rome itself there was some amount of interior painting; but the wealthy Roman preferred mostly to inlay his walls with mosaic and with marble; and so after the Pompeian period the next great phase of mural painting was ecclesiastical. Mr. Orr, in his lecture chiefly on the Italian paintings last session, showed something of the magnificence of the famous paintings in the cities of Italy. The paintings with which we are dealing to-night are contemporaneous to and in many cases earlier than those paintings of Italy. Their quality is of a different order, and yet is such that we have every reason to be as proud of them as the people of Italy are of theirs.

Before considering our English wall paintings themselves, there are several points in respect to them that should be touched upon. They are spoken of by short-sighted critics as wanting in beauty, archaic in their drawing, and childish in their general execution. An eminent literary man who has lived many years in Italy, recently told me that he had made a special study of the paintings in English churches, and his conclusion was that they had no artistic merit. Now criticisms like these seem to me to arise from certain misconceptions. The fault of nearly all criticism is that it lacks imagination, and forms conclusions in accordance with the preconceived notions which already occupy the critic's mind. My friend, the novelist, has spent years of study in Italian cities, and has got

* A Paper read before the Institute of British Decorators by A. K. Sabin. We are indebted for the illustrations to our contemporary, *The Decorator*, in the issue of February 22 last. The discussion following the paper is given, for which we regret we cannot find space, but which many may like to read.

his mind steeped with the wonderful beauty and unparalleled richness of mural decoration there; and he does not see that the principles of Italian mural decoration and English mural decoration are widely divergent, as their methods are divergent, that the motive inspiring the one had no effect upon the other.

who is paid large sums of money for his work nearly always strives to get an effect which will please his paymasters. In the words of the old adage: "He who pays the piper calls the tune." But when you get, as we had in England, little communities of painters who worked for a few pence a day and the

cost of their materials, and who yet produced results which make men to-day pause in admiration, one may justly ask what motive inspired their work. The answer is simple. We have always been a democratic people, and these old artists, the teachers of their own day, did not work to please the wealthy, or folk of importance, but their pictures were made to interest and instruct the common people. Our English churches were, in fact, really popular institutions in those days, and through these paintings their walls became actual story-books for the people, who, with the rarest exceptions, were unable to read, but who thus saw depicted the sacred subjects of their devotions, the great deeds of saintly legend, and occasionally even the heroes of secular romance.

Thus the subject most frequently represented is the legend which more than any other made an appeal to the populace, symbolising, as it does, the struggle of men against sin and adversity, and the ultimate winning of eternal life. Of this subject, St. Christopher and the Christ Child, nearly two hundred mural paintings, or fragments of mural paintings, still remain in England. Possibly you all know the story, but it will bear repeating. These are its rough outlines: Reprobis, a Canaanite, was a soldier of gigantic stature, who had a desire to serve the most powerful master in the world, and with this purpose in mind, he journeyed through many countries seeking him. He served one king after another, but always heard of someone more powerful. At length he seeks Satan, who, he is told, is stronger than any king; but when he has joined company with him and they approach a cross, he sees that the devil avoids it. "I have laboured in vain," he says, "for evidently Jesus Christ is greater than Satan, and I will therefore seek to serve Him." So he seeks out a hermit on the banks of a turbulent river, and tells him that he would serve Christ. And the hermit orders him to undertake the work of carrying over the river all travellers who wish to cross. So he does this, and one night he hears the voice of a child asking to be carried across. He goes and takes the Child upon his shoulder and enters the stream, with a great pole in his hand to help him, for the current this night is swollen and strong. And the Child upon his shoulder weighs heavier and heavier, and the river grows more turbulent, and his feet falter; but he struggles on in great danger of his life, till at length he reaches the other shore. Then he tells the child that he had put him into great peril, and he had felt as though the weight of the whole world was upon his shoulders.

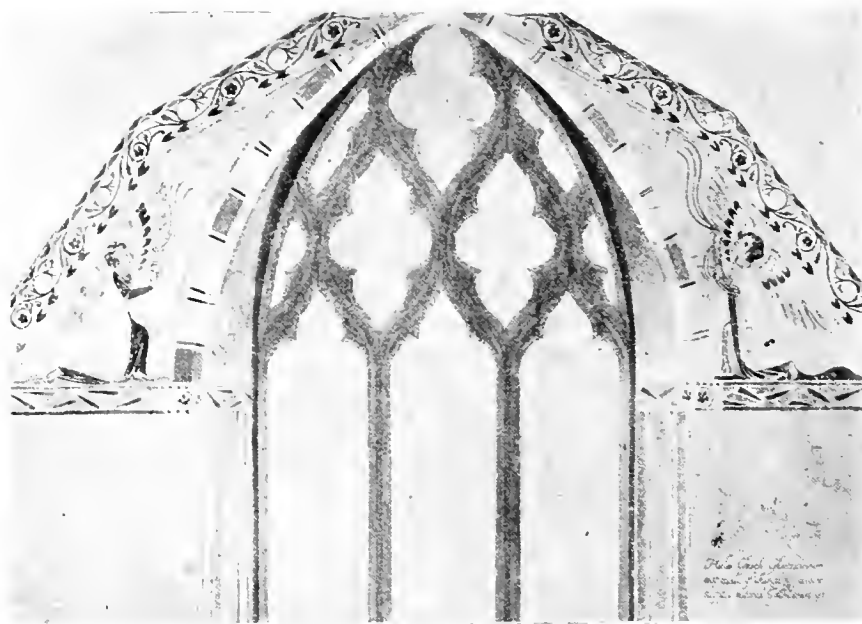
(To be continued.)



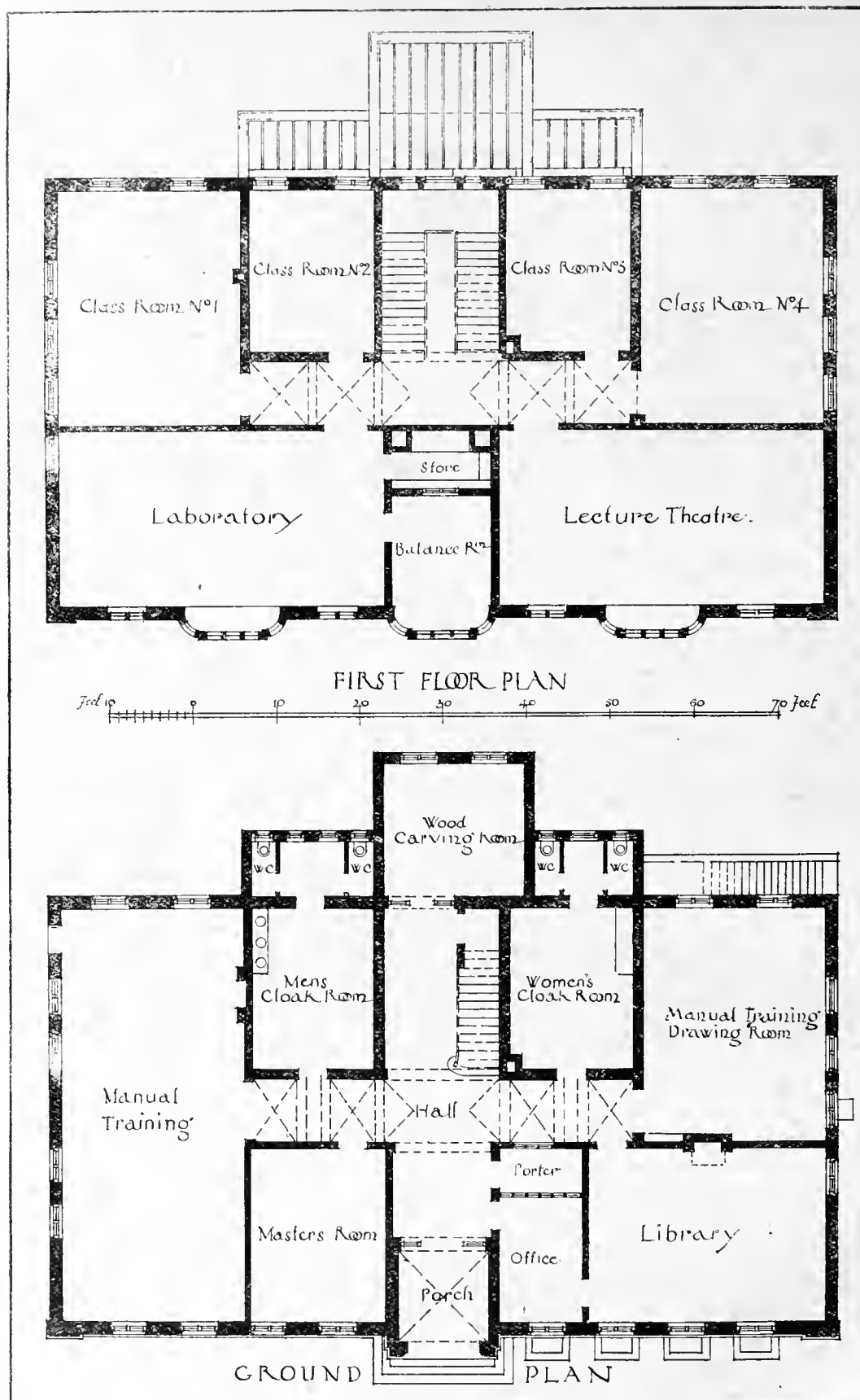
Copy by E. W. Tristram of a painting on the North Wall of Nave, Pickering Church, Yorkshire: St. Christopher and the Christ Child. 15th Century. Victoria and Albert Museum.

For the fact is that the Renaissance of painting in Italy was contemporary with the commercial and political greatness of the Italian cities. It was a period of wealth and splendour for their republics and communes. Art was subsidised by popes, princes, and great financiers; and the artists exerted themselves to produce a splendour conformable to the desires of their patrons—with what amazing success you all know. But in thirteenth-century England, although there was wealth, there was not abundance of wealth, and lavish display of merely beautiful things would not have been in conformity either with the inclination of the princes and nobles, or with the capacity of the artists. Indeed, there is no comparison between the state of things at that time in Italy and in England. In Italy the different communities lived luxuriously, and warred against each other with mercenary armies, but in England the poor dwelt in mud huts, and were sent to war with foreign powers by the king, to prevent them revolting against the cruel conditions of their life. In Italy and in England in those times the art produced was consistent with the conditions of the people of either country, as is indeed always the case.

This, then, we must bear in mind in considering these English paintings; they were the natural product of the soil from which they sprung, and that is one of their great merits. There is always some amount of artificiality in a subsidised art—the artist



Copy by E. W. Tristram of part of the East Wall of Chancel, Hailes Church, Gloucestershire, showing Painted Decoration. 14th Century. Victoria and Albert Museum.

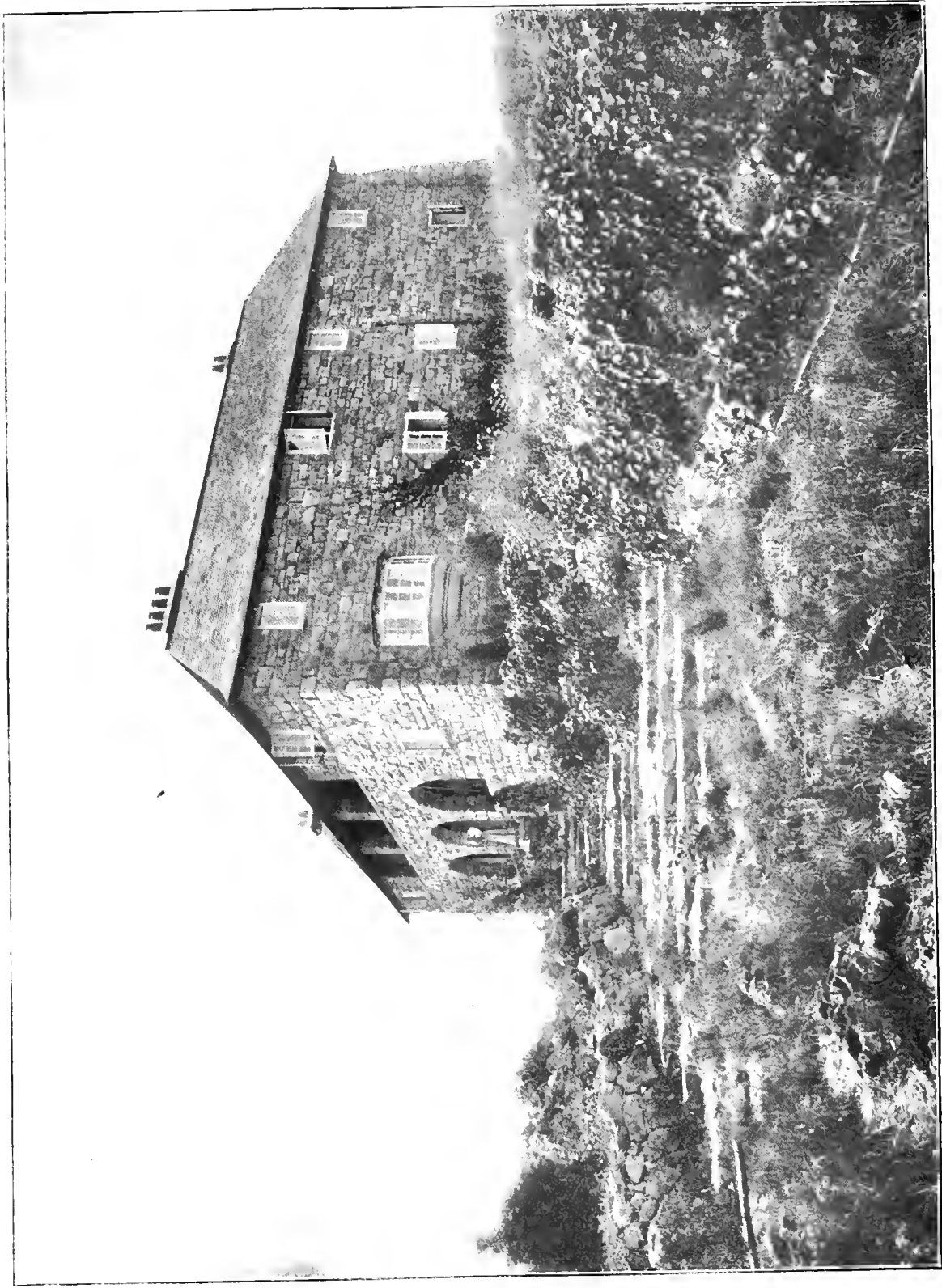


TECHNICAL INSTITUTE, TUNBRIDGE WELLS.
Mr. H. T. HARE, F.R.I.B.A., President R.I.B.A., Architect.





TECHNICAL INSTITUTE, TUNBRIDGE WELLS, SUSSEX.
MR. H. T. HARE, F.R.I.B.A., President R.I.B.A., Architect.

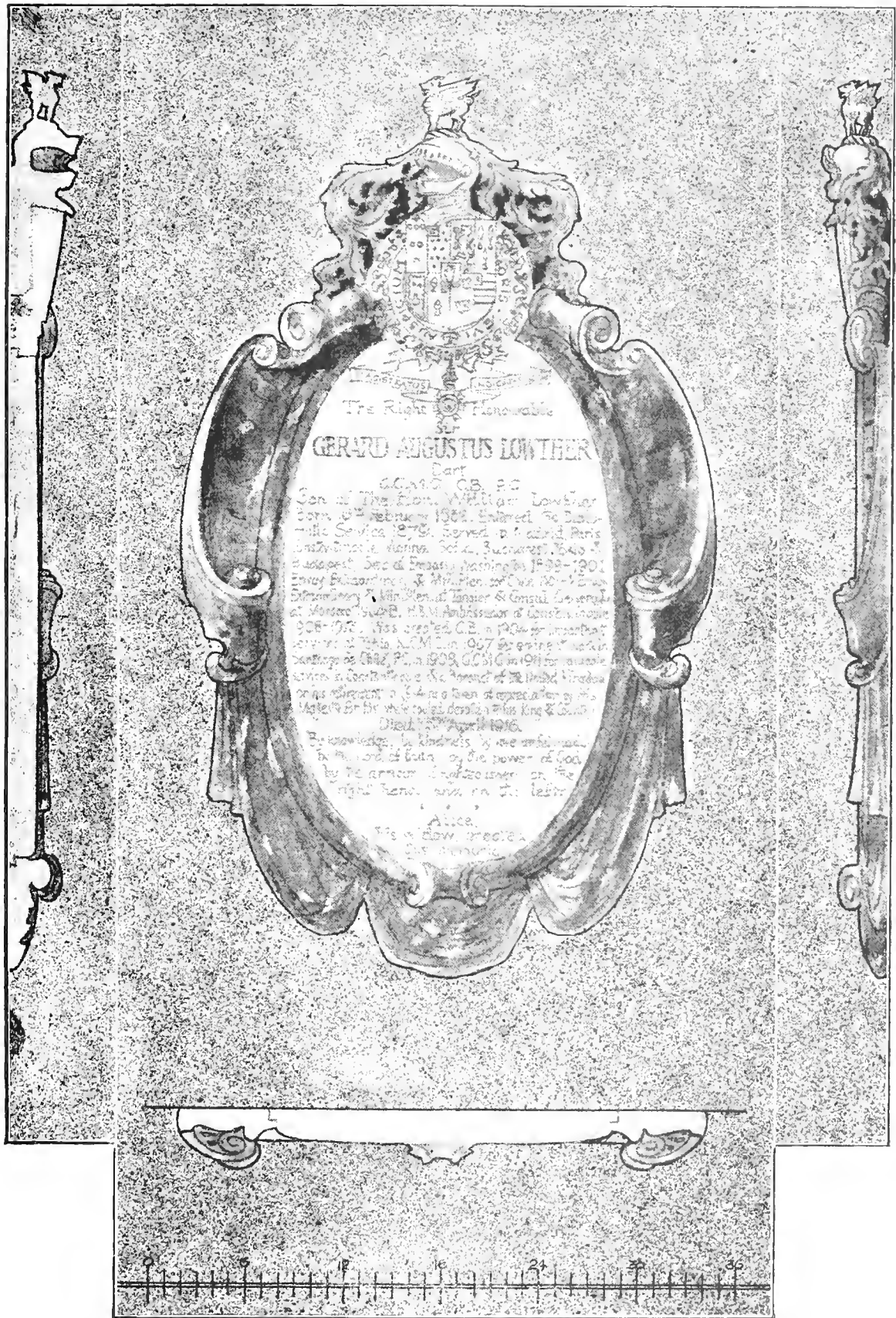


"STONEHOUSE," JOHANNESBURG : VIEW FROM NORTH-WEST.
THE SOUTH AFRICAN RESIDENCE OF MR. HERBERT BAKER, F.R.I.B.A., Architect.

THE BUILDING NEWS, MARCH 13, 1918.

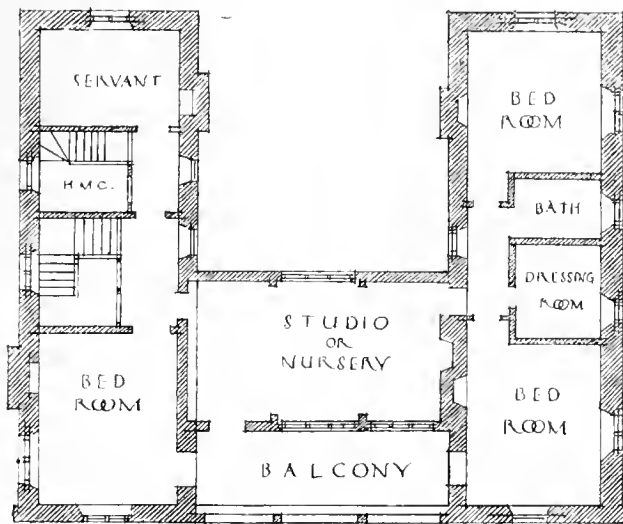


"STONEHOUSE," JOHANNESBURG: ENTRANCE FRONT, VIEW FROM SOUTH.
THE SOUTH AFRICAN RESIDENCE OF MR. HERBERT BAKER, F.R.I.B.A., Architect.



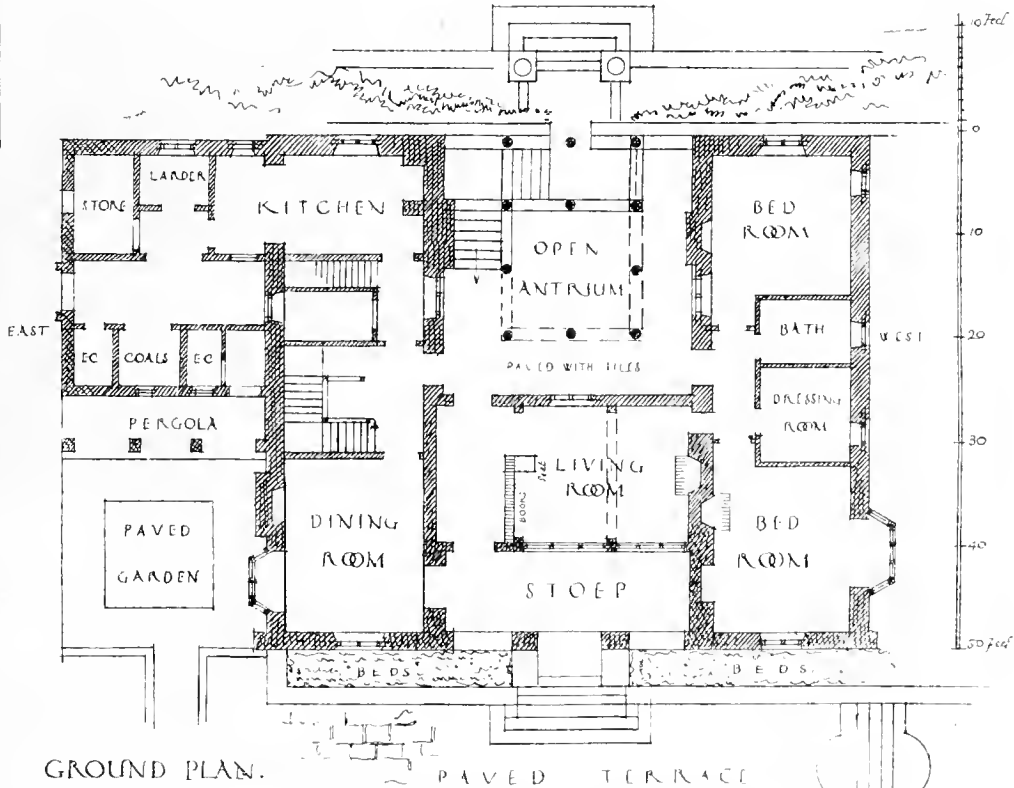
MURAL TABLET, LOWTHER CHAPEL, CUMBERLAND,
 TO THE RIGHT HON. SIR GERARD AUGUSTUS LOWTHER, EARL.
 Messrs. AMERSON, POYNTER and GEORGE H. WINTON Architects.

STONEHOUSE
JOHANNESBURG
THE
RESIDENCE OF THE
ARCHITECT MR
HERBERT BAKER
F.R.I.B.A.



FIRST FLOOR PLAN

ENTRANCE TO SOUTH



GROUND PLAN.

PAVED TERRACE

NORTH OR SUNNYSIDE

Our Illustrations.

STONEHOUSE, JOHANNESBURG, THE SOUTH AFRICAN RESIDENCE OF THE ARCHITECT, MR. HERBERT BAKER, F.R.I.B.A.

This house was started immediately on the conclusion of peace after the South African War. It is built on the top of one of the highest kopjes, two miles from the centre of Johannesburg, at a point where the kopje became a steep rocky cliff, commanding a view of forty or fifty miles over the undulating veld to distant mountains. At that time prices of all building were abnormally high and materials most difficult to obtain. The stone of the kopje is a very irregular refractory quartzite, which has a tendency under the hammer to break in every way but the one intended. It had previously only been used for foundations, and it was very difficult to get the masons to use it at all for external walling, and much less to make clean, good masonry of it. But with some patience this was done, and the effect of the varied colours of the stone, ranging from silvery white through the yellows to deep red ochre in a network of broad white joints, was a very harmonious one on the similarly coloured rocks out of which it grew. As there was no roofing material in the country at the time except imported corrugated iron, cedar wood shingles were imported from California, and the grey-brown of these made a very sober and harmonious roof covering. As the rocks were so very hard and tough, great lichen-covered boulders of it were left as the visible foundation of the house, and also used for the framework of the rock garden. Every flower bed had practically to be blasted out and built up, but much has been done in developing the garden and in tree planting since the photographs now reproduced were taken.

With the exception of the one long continuous window of the living room, the windows are mostly small and nearly every room has a window on two, if not three, sides of it, so that, while the heat and the glare are kept out, there is abundance of ventilation, even in the still weather, which is comparatively rare at this altitude of 5,700 ft. In such high and comparatively cool altitudes in very bright climates, it is more the glare of the light than the actual heat of the sun that has to be kept out of one's houses. One gets one's full of the sun out of doors, and looks on the house rather as a shady protection from it.

The furniture is mainly what was made by the old Cape settlers out of South African hard woods, and has been bought from time to time in the neighbourhood of Cape Town. Most of the rest has been designed in harmony with it and made in South Africa. The bureau in the living room is a specially good example of old Cape furniture, with all its old brass fittings complete; and some of the chairs are of special interest, having been made by the Boer Vortekkers out of Central African hard woods, pinned and inlaid with ivory or bone, the seats being interlaced thongs of buck leather. The dresser in the dining-room is an English oak one, and is almost the only imported piece in these rooms of the house. The china is mostly samples of what the old Cape Colonists imported from the East. Mr. Herbert Baker has furnished us with the above particulars, and at an early day we shall give an interior showing the furniture thus described, and which is very interesting, well harmonising with the house in every way.

TUNBRIDGE WELLS TECHNICAL INSTITUTE.

The President of the R.I.B.A., Mr. Henry T. Hare, was the architect of this building, and we are indebted to him for the loan of the accompanying plans and detail photograph devoted to the main entrance. The walling is of red brick with stone dressings. The library, drawing shop, and manual training room are on the ground floor. The lecture theatre, laboratory, and four class-

rooms occupy the entire space of the upper floor, the balance room being in the middle, where the bay oriel occurs above the porch pictured in the view.

MURAL TABLET, LOWTHER CHAPEL, CUMBERLAND.

This drawing was exhibited at the Royal Academy last year. It represents the memorial erected to the late Right Hon. Sir Gerard Augustus Lowther, Bart., G.C.M.G., C.B., P.G. The tablet is placed in Lowther Chapel, Penrith, Cumberland. The architects are Messrs. Ambrose Poynter and George H. Wenyon. The work was made by Messrs. H. H. Martyn, Ltd., Cheltenham, in green marble (Timos), the central oval being in white marble (Pentelikon). The inscription describes its purpose and gives all particulars.

SUGGESTIONS TOWARDS AN APPRECIATION OF THE PICTURESQUE CONSIDERED IN RELATION TO SOCIAL CONDITIONS AND ENVIRONMENT.*

By MAURICE E. ADAMS, F.R.I.B.A.

(Continued from page 196.)

A dwelling is not an abstraction only to be reckoned as an adroit performance, a mere pile of timber and tiles, or bricks and mortar, peopled by a given number of souls. A house should possess a soul of its own, distinct and characteristic, a personal conglomeration of life with its own peculiar essences, flavour, and feeling as well as romance. The French emphasise this essential of a habitation by always speaking of the family residence as "the house." A church also is something more than an auditorium or a meeting-house with a circumscribed amount of seating accommodation at such and such a price per seat. That was not the idea of those who erected our beautiful churches before the Reformation.

Our modern disorderly England has changed materially during the last fifty years, and, strictly speaking, it is not an old country, but a new one. Sanitary science and surgery, the haphazard developments of industrial enterprise, the transport system, overcrowding of industrial centres, repressive measures against land ownership among many other political circumstances out of place to mention here, have combined to inaugurate a new age of experiment rather than consistent progress. England of the thirties was an old country, bearing a far closer resemblance to England of Tudor Elizabeth than that of George V. When Mr. Direck arrived in Essex from America he said "he thought he had come to the England of Washington Irving, but found it not even the England of Mrs. Humphry Ward." Rural life, in the meantime, has been avoided for its dullness and monotony, but what we want in this country is more air, a keener understanding of picturesqueness and joy of life which is a question of balance, a fuller and freer social life. Better country housing is the problem of the hour. We have greatly overdone herd life, so that at the outbreak of the war three-fourths of the population was compacted in urban centres, leaving less than a fourth for rural occupation. The defacing disease of vulgarity is the natural product of herding in towns, and is by no means a matter of class. We have already realised the urgent need of the home production of food. The privations consequent upon the war have, therefore, accomplished much towards making the land question in the United Kingdom a practical and remunerative concern. We must sweeten our workshops, extend small ownership, and promote the amenities for well-being; cleanse our dirty, disorderly railway stations, consume our smoke, and improve the homes of those who are to be employed on farming and the production of foodstuffs. And this problem of tackling rural housing must be based on artistic and economic lines. Standardised cottages schemed on a schedule would inevitably prove a gigantic and enormously expensive catastrophe. All "arty" fuss and preconceived official ideas must be abandoned in

favour of sound, well-shaped, straightforward, healthy tenements designed with strict regard to local materials and differing districts. Environment must not be ignored by the adoption of stereotyped plans. Every cottage ought to be made worthy of the name of home, and be in harmony with the garden and the hedgerow. We cannot afford to spoil further the beautiful landscapes of England, and the rural charms of the countryside must be conserved by these elementary essentials. They constitute actually fundamental assets worth fighting for, but when the battle is over we shall need all our energies to prevent ill-considered schemes from being undertaken to the detriment of all classes and real prosperity. The achievements of the past and the experience of the ages which made England great must be brought to bear upon the task which lies before us in the near future. "Idealism has ever been the great driving force of all history." Let us not perpetuate makeshifts, for they are futile.

LEGAL INTELLIGENCE.

BUILDING: WAR RESTRICTIONS—MERTENS V. HOME FREEHOLD COMPANY. In this case, heard on February 22 before Justice Avoyn in the King's Bench Division, the plaintiff, Mr. George Mertens, of St. Dunstan's Hill, London, a native of Holland, claimed damages for breach of contract against the Home Freehold Company, Oxford Street, London. Defendants denied that they entered into the contract. Plaintiff it was alleged, got into telephonic communication with the Home Freehold Company, a business carried on by Mr. Masson Smith, a Canadian, and the sales manager, Mr. Lawrence, called on the plaintiff. It appeared that there were two contracts, one with the Home Freehold Company for the purchase of the land, and one with Mr. Lawrence for the erection of the house. The house was erected up to the first floor, but when Mr. Lawrence applied to the Ministry of Munitions for a licence to finish the building, the application was refused. Mr. Mertens, it was stated, had spent about £350. The defence was that Mr. Masson Smith had nothing to do with the erection of the house, and there had never been a partnership of any kind between him and Mr. Lawrence. The jury returned a verdict for the plaintiff. There were other issues, and the Judge referred these to the Official Referee. Costs to follow the event in the present trial.

An advance of wages has been granted to the joiners of Hadden Bridge and adjacent districts, making the rate one shilling per hour.

The municipal buildings at Stornoway, which were opened by the Earl of Rosebery in 1905, have been completely destroyed by fire. The damage is estimated at between £15,000 and £20,000.

An application by the Eland District Council to prepare a town-planning scheme within their area has been approved by the Local Government Board.

Mr. Francis Joseph Bagent, who ranked high as an ecclesiastical antiquary, and was a close friend of Cardinal Gasquet, has died at his residence at Winchester. He was in his eighty-eighth year.

The death has been reported of Lance-Corporal Christopher Walter Hayes, of Chardon House, Filton, son of the late Alderman C. A. Hayes, ex-Lord Mayor of Bristol, of Salisbury House, Coombe Dingle, and of the firm of Bristol contractors C. A. Hayes and Sons.

Mr. Sheriff H. F. Hopburn, C.C., presided last Thursday at a meeting held by the London Society at the Mansion House to urge the acquisition of the Swedish Lutheran Church, where Swedenborg worshipped in the East End, and the adjoining grounds as a playground for children.

Mr. Fiddes Watt, A.R.S.A., has been commissioned by a number of citizens to paint a presentation portrait of Dr. Gordon, O.B.E., town clerk of Aberdeen. The portrait will be hung in the Art Gallery, and a proposal has been made that a replica should be given to Dr. Gordon for his home.

The death occurred at the Limes, Foulsham, last Wednesday, of Mr. T. H. Blyth, head of the firm of T. H. Blyth and Sons, builders and contractors. The deceased, who had been in failing health for a long time, was sixty-seven years of age. He had lived in Foulsham forty-six years, and from a small beginning worked up a very large building business.

* Paper read before the Royal Society of Arts on February 20, 1918.

Our Office Table.

At Bow Street Police Court, last week, before Mr. Graham Campbell, Adolphe Armand Braum, of Melrose Road, Cricklewood, and Frederick George Jarrett, of Holland Street, Blackfriars, were summoned for having in December last printed large numbers of circulars advertising a guessing competition or test of skill with a view to furthering the sale of a certain book entitled "Wilhelm the Ruthless," published by Drawing (Limited), Strand, contrary to the provisions of the Paper Restriction Order. Mr. Graham Campbell said that he would have found some difficulty in deciding that the circulars referred to a guessing competition, but he was clearly of opinion that they did refer to something that came within the definition of a test of skill. The defendants would each have to pay a fine of £25 and £5 5s. costs.

The fourth British Industries Fair organised by the Board of Trade since the outbreak of war was opened in the Pennington Street premises of the London Dock on Monday last. The building in which the fair is held this year is situated within 12 minutes' walk of Mark Lane Station on the Underground Railway, and a service of motor omnibuses will ply between Mark Lane Station and the fair. In order to avoid any possible interference with the production of military requirements the fair has again been confined to the following industries, viz., pottery, glass, stationery, paper, printing, fancy goods, and toys. As in former years, the right to exhibit has been confined to manufacturers, and some 425 firms are exhibiting. Admission to the fair is again confined to bona-fide trade buyers, and invitations have been issued by the Board of Trade direct to over 60,000 firms in this country. Any firms which have not yet received an invitation and desire to visit the fair should apply for a card of admission to the Director, British Industries Fair, Board of Trade, 10, Basinghall Street, E.C.2. The exhibition remains open till March 22. There is not much to interest our own readers, except a rather interesting model of Messrs. Lewis Berger and Sons' more or less well-known mascot "Mr. Berger," which has been made by the "Pyram" Manufacturing Company, and which will be exhibited on their Stand K.90. This figure has been finished in Berger's colours, and it is intended that similar figures shall grace the windows of Berger agents all over the world, eventually.

Lieut. Pugin, son of the late Mr. Peter Paul Pugin, K.S.S., has received the following mention in the Northern Army Orders for "gallant conduct":—On December 24, 1917, whilst live bomb practice was being carried out on the Pakefield Range, a bomb thrown by one of the men under instruction hit the parapet and rolled into the trench, falling between the thrower and the bombing sergeant. The latter was unaware of the accident, as he was giving orders to the next thrower, and the thrower himself was overcome with nervousness. Lieut. Pugin, who saw the accident, ran round the safety traverse, shouted to the sergeant to save himself, and dragged the thrower back round the traverse, and the bomb exploded. Had it not been for Lieut. Pugin's prompt and gallant action, both men would probably have been killed. The Army Commander desires to express his appreciation of Lieut. Pugin's conduct, and directs that this gallant act be placed on record. This order will be repeated in orders of all formations and units.

The Housing and Town-planning Committee of the Birmingham City Council last Friday passed a resolution instructing the town clerk to communicate with the Local Government Board, and to urge them to state as early as possible "the nature and extent of the 'substantial financial assistance from public funds' proposed to be granted by the Government to local authorities who are prepared to carry through, at the conclusion of the war, a programme of housing for the working classes which is approved by the Board, it being, in the opinion of this committee, imperative that the information

should be forthcoming without further loss of time to enable local authorities to prepare their schemes." The resolution also requested the Board to confer on local authorities powers enabling them to acquire at reasonable prices any lands which may be needed for the purpose of providing houses.

Under the auspices of the Anglo-French Society Mr. Laurence Binyon, Assistant Keeper of Prints and Drawings in the British Museum, delivered a lecture at King's College, Strand, on Saturday last on "The Relation between French and English Art," illustrated with coloured lantern-slides. After describing the characteristics of French and English Art, which are expressions of national temperament, Mr. Binyon pointed out some contrasts and comparisons. Dealing first with architecture, he compared French and English cathedrals, town and country houses, and French and English gardens. He contrasted early painting in each country, and spoke at some length of the French artists in England in the 17th and 18th centuries. The mutual relations were still greater in the 19th century; Turner and Bonington went many times to France, while Géricault and others came to London. He mentioned Constable's influence, which is so strong on the French school of landscape painters. During the same period there was a revival of etching in France and in England, where the influence of Legros was so deeply felt. Then came impressionism, and Monet's wonderful pictures of the Thames. Mr. Binyon concluded with optimistic hopes for the future of artistic relations and reciprocal influence.

Considerable interest is taken in an experiment in co-operation which is being attempted in Birmingham, where a number of manufacturers are combining to set up a central laboratory for the analysis of non-ferrous metals. The expenditure will be defrayed by means of initial contributions from the firms interested and by an annual payment to cover a certain number of assays, additional payments being made for assays above the fixed number. The Ministry of Munitions, which has taken considerable interest in the scheme, will be represented on the management, and the Treasury, at the request of the Ministry, have agreed to contribute £1,000 towards the initial cost. It is expected that considerable economies will be effected in the case of assays, and the present system of small laboratories, which is believed to lead to waste, will be avoided.

Colonel Sir Samuel Swinton Jacob, Weybridge, aged 73, late chief engineer of Jaipur State, Rajputana, India, has left net personalty £25,946, and a total of £32,872.

Mr. William Thorpe, of Sandheys, Hesketh Road, Ashton-on-Mersey, builder and contractor, who died on December 23, has left estate of the gross value of £16,831.

Orders have been made by the competent military authorities prohibiting after the 11th inst. the making of any photograph or sketch in the metropolitan police district and certain districts in Essex, Kent, and Surrey. The possession of photographic and other apparatus is also forbidden. The order does not apply to studios, private houses, or gardens.

At St. Mary's, Falmouth, on February 27, Major Adrian Gilbert Scott, R.E., M.C., youngest son of the late Mr. Gilbert Scott, architect, of London, and of Mrs. Scott, and grandson of Sir Gilbert Scott, was married to Miss Barbara Agnes Hemy, youngest daughter of the late Mr. Charles Napier Hemy, R.A., of Churchfield, Falmouth, and of Mrs. Hemy.

The Government having awarded a bonus of 12½ per cent. to all men over the age of 21 years employed in the building trade upon the construction of Government works, the matter has received the careful consideration of the Bristol Master Builders' Association, and it has been decided to grant a similar bonus to all men who may be engaged upon private work.

Major A. S. Meek, Military Governor of Basrah, writes:—It has been decided to build in Basrah after the war a hospital in commemoration of the late General Officer Commanding-in-Chief in Mesopotamia, to be called the Maude Memorial Hospital, and it is hoped Basrah people living abroad will contribute to the fund opened, sending donations to the Eastern Bank, Limited, in Basrah, or to me.

TO CORRESPONDENTS.

We do not hold ourselves responsible for the opinions of our correspondents. All communications should be drawn up as briefly as possible, as there are many claimants upon the space allotted to correspondents.

It is particularly requested that all drawings and all communications respecting illustrations or literary matter, books for review, etc., should be addressed to the Editor of the Building News, Ellingham House, 1, Arundel Street, Strand, W.C.2, and not to members of the staff by name. Delay is not infrequently otherwise caused. All drawings and other communications are sent at contributors' risks, and the Editor will not undertake to pay for, or be liable for, unsought contributions.

When favouring us with drawings or photographs, architects are asked kindly to state how long the building has been erected. It does neither them nor us much good to illustrate buildings which have been some time executed, except under special circumstances.

**Drawings of selected competition designs, important public and private buildings, details of old and new work, and good sketches are always welcome, and for such no charge is made for insertion. Of more commonplace subjects, small churches, chapels, houses, etc.—we have usually far more sent than we can insert, but are glad to do so when space permits, on mutually advantageous terms, which may be ascertained on application.

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The Ripon City Council have agreed to consider a proposal for the erection of a swimming bath in the Spa Gardens at a cost of £5,000.

The Bootle Health Committee have submitted to the Council a map showing the boundaries of the area which it was recommended should be included in the town-planning scheme to be prepared pursuant to the Housing and Town Planning Act, 1909. Mr. H. Pennington criticised the suggested scheme, and declared that to carry it out would be to kill building in Bootle and to play into the hands of Liverpool, because no private person would build under it. The result would be that the Corporation would have to build, and this would mean more rates.



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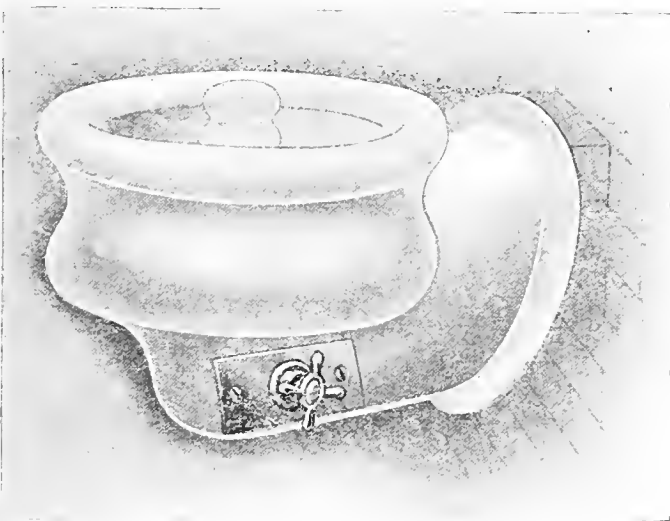
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WM. OLIVER & SONS, Ltd.,**120, Bunhill Row, London, E.C.****TENDERS.**

*Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender: it adds to the value of the information.

BEVERLEY.—For about 5,000 tons of stone for macadamising roads, to be delivered at various railway stations and wharves in the district, for the Beverley District Council. Mr. E. Picker, C.E., surveyor:—

Brookes, Ltd., Halifax; J. Green and Son, Ltd., Silsden, near Keighley; Shap Granite Co., Ltd., Shap, Westmoreland; Burstwick Sand and Gravel Quarries, Burstwick; W. L. Shooter, Hornsea; Skipton Rock Co., Ltd., Skipton; P. W. Spencer, Skipton; G. Hodsman and Son, Ltd., Port Clarence, Middlesbrough; Clokes Extension, Ltd., Leeds; E. C. Tomkins, Middlesbrough; W. C. Clark, Ltd., Darlington; J. N. Smith and Co., Ltd., Leeds; Craddock, Allison and Co., Eaglescliffe; H. Mead and Co., Hull; Monkhouse and Peart, Wearhead; Ord and Maddison, Ltd., Darlington; J. F. Shackleton and Son, Ltd., Goole; R. Summerson and Co., Ltd., Cockfield, R.S.O.

BRISTOL.—For foundations for boiler-house extensions at the Corporation Electricity Works, Feeder Road:—

C. A. Hayes, Thomas Street, Bristol (accepted) £2,376 0 0

DEPTFORD.—For work for the borough council:—

Accepted:—Sewer connections and jobbing work, A. L. Etheridge; wheelwright's work, J. G. Newell and Co.; removal of stable refuse and manure, John Sutton; barging refuse, W. R. Cunis, Ltd.

LOWESTOFT.—For repairs to No. 2 Home (St. Oysth, Oulton Broad), for the guardians:—

G. M. Knights (accepted) £21 10 0

MITCHAM.—For supply of materials (One Year), for the Wandie Valley Joint Sewage Board. Mr. R. M. Chart, Lower Green, Mitcham, Surveyor:—

Accepted tenders:—Hall and Co., Ltd., Croydon, coal £1 17s. 3d., coke £1 14s. 6d., lime £1 11s. to £1 19s., cement £2 15s.; Lancaster and Co., Ltd., Mitcham, horse and cart hire £1 3s. 6d. per day.

WEYMOUTH.—For work connected with the extension of the concert hall in the Alexander Gardens, for the corporation. Mr. K. J. S. Harris, borough surveyor:—

Whetnam, A. E., Grange Road, ..	£333 9 8
Jesty and Baker, North Quay ..	292 0 0
Conway, T., Ltd., Commercial Road ..	280 0 0
Jenkins and Hitt, St. Thomas Street (accepted) ..	275 0 0
All of Weymouth.	

WORTHING.—For distemping at Christ Church boys' and Davison girls' schools, for the education committee:—

Christ Church.	
Crouch, A.	£107 0 0
Lyne, A. M.	89 10 8
Sandell, F., and Sons	78 5 0
Sandell, H. W. (accepted) ..	65 9 11
Davison.	
Crouch, A.	77 0 0
Sandell, H. W.	70 16 10
Lyne, A. M.	42 14 0
Sandell, F., and Sons (accepted) ..	36 5 0

Mr. D. A. Donald, burgh engineer and surveyor of Grangemouth, at a recent meeting of the Town Council, had his salary increased by £100 per annum.

Messrs. A. J. Staines and Co., Ltd., builders, etc., announce that they have relinquished business at their works, 154, Great Titchfield Street, W.1, and that their registered office is now 46, Bishopsgate, E.C.2. Telephone, London Wall 7614.

Mr. George Bell, who from 1886 to 1914 filled the position of borough surveyor of Swansea, died on the 1st inst., at the age of sixty-nine. He was responsible for many important improvement schemes at Swansea. One of his sons is assistant borough surveyor.

Councillor H. J. C. Winterton, for eighteen years a member of Lichfield City Council, has been elected an alderman. Alderman Winterton is a member of the firm of Messrs. Winterton and Sons, auctioneers and estate valuers, of Lichfield. He was sheriff of Lichfield in 1897, and mayor in 1912, and in 1907 he was placed on the Commission of the Peace for the city.

LIST OF TENDERS OPEN.**BUILDINGS.**

March 16.—Construction of retaining wall to the old bridge, Billingham (Lines).—For the Sleaford Rural District Council.—Particulars and specifications on application to A. Perry, Surveyor of Highways and Bridges, Council Offices, Northgate, Sleaford.—Tenders to E. H. Godson, Clerk, Northgate, Sleaford.

March 20.—Forming an operating room at the North-Western Fever Hospital, Lawn Road, Hampstead, N.W.3, in accordance with drawings and specifications prepared by Mr. T. Cooper, M.I.C.E., acting engineer-in-chief.—For the Metropolitan Asylums Board.—Drawings, specifications, and form of tender may be inspected at the office of the Board, Embankment, E.C., and can be obtained upon payment of a deposit of £1.—Tenders to D. Mann, Clerk.

ENGINEERING.

March 30.—The Acting British Consul at Santiago reports that a decree has been issued calling for tenders for the improvement of the port of Antofagasta (Chile). By the terms of this decree the amount to be expended on this work must not exceed £1,700,000. Details may be obtained from the Port Commission Offices in Santiago, and copies are expected to be received shortly at the offices of the Chilean Legation in London, 22, Grosvenor Square, W.1. Tenders will be received up to 3 p.m. on March 30 by the Minister of Finance, Santiago.

FURNITURE.

March 15.—The Commissioners of H.M. Works invite tenders for supply of lockers.—Tenders to the Secretary, H.M. Office of Works, Storey's Gate, London, S.W.1.

PAINTING.

March 18.—Painting, colouring, etc., at various schools in Bradford.—For the Education Committee.—Specification and form of tender to be obtained at the City Architect's Office, Town Hall, Bradford.

In pursuance of an agreement between the Engineering Employers' Federation and various trade unions, providing for a review of wages in the engineering and foundry trades every four months during the war, the Committee on Production heard the parties on February 27, 1918, and the award is that conditions at the present time do not warrant any further general alteration of wages.

OMNILAC**A SPECIALTY IN COPAL OAK VARNISH.**

OMNILAC dries with a hard, brilliant, and durable surface.

OMNILAC is a real double-duty varnish, suitable for both inside and outside work.

OMNILAC is an inexpensive, good quality, all-round varnish.

ROBT. INGHAM CLARK & CO. LTD.

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**WEST HAM ABBEY,
STRATFORD, E.**

LONDON

OFFICES:—
**WALTER HOUSE,
Bedford St., Strand, W.C.2**



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AND ENGINEERING JOURNAL.

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Strand, W.C.2.

"Stonehouse," Johannesburg. The Dining Room.
The South African Residence of Mr. Herbert Baker, F.R.I.B.A., Architect.
Sienna Cathedral Interior. Sketch by Lieut. J. B. Mendham, R.F.C.
New High School for Girls for St. Martin-in-the-Fields, Trafalgar Square. To be built at Tulse Hill. A sheet of three sections. Mr. H. Carter Pegg, F.R.I.B.A., Architect.

Corrente Calamo.

The enormous rise in the price of labour and building materials is not only serious for house owners and lessees under repairing covenants, but it is also worrying the fire insurance offices. These companies are now issuing circulars to their insured, reminding them of these great and growing increases in the costs of all rebuilding and repairing, and suggesting an increase of their insurance if they wish completely to cover a loss by fire. Builders and the building trades are hampered by shortage of men and materials, as well as by high wages and prices, so that they are hard hit all round. But perhaps the greatest sufferers are those who are in the grip of Conveyancing law and the clutch of covenants in old leases. In one case we noted last week the judge did what he could to soften the rigours of the law, but that was very little. Possibly he would have done more but for having the fear of the Court of Appeal before his eyes had he tried to construe covenants entered into over sixty years ago in terms of to-day. For it is especially the Lords Justices who hold tight to legal technicalities, and will have the strict letter of the bond even in doing what is still called equity! The recent case of "Rev. D. L. Hollins, deceased," though arising on other grounds, shows the strong spirit of tradition in the Courts. Trustees under a will had to set aside and invest a sum of money sufficient to secure an annuity of £1,000 a year for a woman. If they did so in Consols, as usual, the small estate would be so cut down that all the other legatees would get much less than their due; while, if they bought Four per Cent. War Loan, the loss all round would be reduced. Mr. Justice Astbury tried to do equity by taking this latter course. Now the Court of Appeal has reversed his ruling, because it is contrary to a case decided in 1850. They hold that this ancient authority must still be followed, and the money put in Consols, although sixty-eight years ago there was no other such security, whereas there are now many equally good, so this estate must lose to keep up a legal tradition.

Lord Harris's remarks last week at the sitting of the East Kent Tribunal, and some of those of his colleagues, on the slacking of men employed on Government

jobs are completely borne out by our own observation. Lord Harris said he had had a rather unfortunate personal experience of this matter. His wagoner recently left him, and gave no reasonable excuse. The man found work with a contractor at two-thirds more wages than he had received previously, but at the end of a week he came back and asked to be taken on again. In answer to the question why he had thrown up so good a job, he replied that he "could not stick it," and said, "I am not prepared to waste time like that; all the time I was there I was engaged in chucking bricks a few yards and then chucking them back again." Lord Harris said he made inquiries as to where the contract was placed, and communicated with the Department and explained the case, adding that he could not understand how there could be a contractor who could take on a man at such a big wage for so little work. He had received no answer. The week previous he wrote to the secretary of the Department, asking whether his letter had been received and attended to, but he was still awaiting an answer. If he did not get a reply he would take the case to the House of Lords. Mr. Arthur Finn, a Kentish farmer, said it was within his knowledge that men employed on a Government contract had been seen smoking all day and not doing a stroke of work. We do not doubt it. It was the case not long ago on some temporary offices erected not many minutes' walk from our own office. Nobody quarrels any more than Lord Harris did, as he said, with the high wages which the men managed to get; his quarrel was with a system which permitted a contractor to take men whom he obviously did not want and other people required very badly. Many of these men are utterly unfit for the work they are set about, and seem simply taken on to increase outlay and waste time and money.

Mr. Hayes Fisher, speaking last Thursday at a conference of local authorities, employers, and workmen at Caxton Hall, Westminster, announced that within the next few days another circular would be issued giving particulars of the financial assistance which the Government proposed to offer to local authorities to enable them to undertake housing schemes after the war. He said he thought they would agree, when they

saw the terms, that the Treasury had treated local authorities very well, and that the bargain offered was sufficiently attractive to induce them to be early in the field. This question must be solved by a partnership between the State and the local authorities, and the latter must be expected to take some risks to the rates if they were going to have what was really an enormous asset in the form of houses for the people on land which previously brought in very little. He hoped that the local authorities would as soon as possible put their shoulders to the wheel and satisfy the Local Government Board that they really intended to co-operate with the Government. They must take immediate steps to ascertain the number of houses required, and what land could be got and at what price. Those local authorities who would not move would have to be made to do so, and he would shortly introduce a Bill which would give him power, in places where the local authorities refused to act, to bring other bodies into action, but he believed that that would be exceptional. He did not believe there would be much difficulty in getting land at reasonable rates. Of course, if landlords did not agree to release land at such rates, there were other methods which could be adopted, but he did not like coercion. The real difficulty was going to be in the price of money and the paucity and cost of labour and material, and these difficulties must keep some of the advocates of housing from indulging in some of those day-dreams which they had cherished in the past.

We incline to doubt the use of the measures detailed in the first report issued by Dr. Addison of the Committee appointed to recommend changes in the compulsory acquirement of land for public purposes. As a "general principle" the Committee recommends that there should be established one general system for the obtaining of compulsory powers for the acquisition of land, and that this should be made applicable to Government departments, local authorities, railway companies, and all other bodies or persons who can prove that it is necessary or desirable in the public interest that such powers should be conferred. The Committee then propose that a general sanctioning authority

for the grant of compulsory powers shall be set up in the form of a panel of commissioners including members of Parliament and others of similar standing, with general experience of affairs. Government officials or professional experts, as such, will not be included in the panel, but will have their proper opportunity of appearing as witnesses. Any scheme involving compulsory acquisition will be publicly (and, so far as possible, locally) investigated by commissioners chosen from this panel; and the decision of such commissioners will be final on all questions of fact or the intrinsic merits of any scheme. Full Parliamentary control over matters of policy will, it is anticipated, be retained by providing for direct reference to Parliament upon any unsettled questions of principle; and all members of the panel (Parliamentary and non-Parliamentary) will be periodically appointed by a Parliamentary Selection Committee drawn from both Houses. Delays, we are told, will be reduced by permitting schemes to be submitted to the sanctioning authority at any time of the year (instead of only during two months, as at present), and a final decision upon any scheme "should" normally be reached in a few weeks. Provision is made for reducing expenses by giving the commissioners themselves a wide discretion over procedure and costs, with a direction to exercise their discretion in each case with a view to curtailing unnecessary evidence and discouraging unreasonable contention on either side. All very laudable, no doubt; but where has the neglect to acquire land—say, by municipal bodies in connection with housing—originated in the recent past? Sometimes, no doubt, in the *cis inertia* of local bodies artfully hypnotised by vested interests; but much oftener by the discovery that all the powers to acquire land compulsorily will not bring it into the market, or make it more profitable to build on, than the enterprise of the ordinary builder whose activities have been prostrated for the past ten years by unfair taxation and war conditions.

The necessary qualifications of a successful architect as a "man of business" are dealt with at some length by Mr. William Roger Greeley in the *American Architect*, who laments that although during 1916, a bad year for building construction, the architect has handled the money and the men, and has superintended the design, marketing, and construction of buildings valued at something like \$1,160,000,000 out of a total of \$1,547,000,000 in the North Atlantic States and North-West territory alone, and the engineer during the same period has designed and directed the construction of work valued at less than one-seventh that amount, the U.S.A. Government, like our own, has ignored his capability for organisation, and neglected to avail itself of his capacity for war-work. Why? Because, it seems, a little too much is expected! He is expected to be

A devout and pious man.
A preacher of excellent ability.
A student of theology and of history.
A guide, philosopher, and friend, and

A comforter in time of trouble, sympathetic and tactful.
A spellbinder and money raiser of the first ability, and
A good organiser.
A sport, popular with young people, and ready for the game.
A married man.

"In short," says Mr. Greeley, "a Savenarola, Daniel Webster, Marcus Aurelius, Florence Nightingale, Pierpont Morgan, William Jennings Bryan, Buffalo Bill, and Benedict all under one hat! Even Billy Sunday's qualifications would be challenged."

Town planning has begun in Ontario. The Ontario Government enacted at its last session a town planning law, entitled "An Act Respecting Surveys and Plans of Land in or Near Urban Municipalities," which provides for street-planning, new extensions, or widening; for bringing adjacent territory under urban authority, and for a central provincial authority, the existing Railway and Municipal Board. The local authority is either the municipal council or the town planning commission. Appointment of a commission is optional with the council, but once appointed the commission is the local authority. The commission consists of the head of the municipality and six rate-payers, the term of office being three years. Members of the first commission are appointed for one, two, and three years respectively. With only two new appointees each year, the commission is a continuing body. Only one commission, that of the city of Kitchener, has so far been appointed under the Act. The Kitchener Commission has regular monthly sessions, and has made a fair beginning in the work of opening closed-off areas in the older parts of the city and in projecting long-needed connecting streets.

AN ARTIFICIAL STONE OF WORLD-WIDE RENOWN.

Readers at home and in the Dominions who make use of the artificial stone commercially known as Poilite, which first saw the light in Austria early in the present century—are aware of its phenomenal characteristics and its satisfactory use by architects and engineers in England and the colonies. Even now, however, after several years' experience of it, many are heard to exclaim, "What is Poilite, and whence its success?" Probably, therefore, some reliable and hitherto unpublished data on the subject will be welcomed, and, as we believe, at the same time answer such questions and serve also to dissipate the still prevalent but erroneous idea that even to-day during the great war this material still remains the product of a part of the Continent of Europe presently in the occupation of the Central Powers. It was certainly formerly the case that in no other industry did the Germans put forth more furious efforts to conquer the world's markets than in asbestos manufacture.

The material is, however, of British manufacture, and is constituted of London Portland cement reinforced with pure asbestos fibre of selected grades which, by the special process employed in England since 1912, have the property of increasing tenfold the initial strength of the cement. It is produced in specially designed rolling mills—that is to say, in layers the thick-

ness of which is 0.00784 of an inch, such layers adhering to each other so firmly that, after reaching the mature stage, the finished slab on fracture is void of stratification or lamination. The standard thickness is therefore built up of some twenty layers, or films, each layer having the asbestos fibres uniformly distributed and laterally interlaced with each other, so as to constitute a species of tough woven fabric. It will be readily understood that the fibres not only give the product a pre-eminent resiliency and durability, but also the outstanding advantage of affording immense resistance to transverse mechanical and tensile stresses, which increase in ratio with its age.

It is not a matter for surprise that such a material has many counterfeits, particularly abroad. These kindred and specious productions, however, are but poor counterfeits, and reveal inherent defects which inevitably become apparent sooner or later to the engineer, and of which he naturally complains. Therefore they should not be confused with Poilite, in spite of their having a somewhat similar appearance. The manufacture of such imitations is often based on principles which are scientifically unsound. Instead of being built up in layers, some of the imitations are made by pressing out into moulds a cement and asbestos mixture "in jets," and the resultant product has all the inevitable characteristics of such a rough and ready process, that is to say, brittleness and want of elasticity and homogeneity. Indeed, on such systems it is easy to replace the asbestos fibres with asbestos powder, at one-tenth of the cost of asbestos fibre, while such powder has little value as the reinforcing property for cement. The use of such powder is further liable to disturb the "setting" of the cement, and, furthermore, in such manufactures even the fibres which may be used are distributed through the slab at haphazard, whereas it is only those fibres which may happen to lie along the horizontal plane of the slab which can reinforce the finished material. It is impossible to turn out by such a rough and ready process as we refer to slabs of one and the same thickness, or to produce them except of more or less wedge-shape owing to the immense difficulty of evenly distributing the cement mixture of which they are made up. Consequently, it will be realised that such an imitation of Poilite, owing both to its want of homogeneity, wedge finish, and its variable density, is far better avoided. It will also be realised why the mechanical and transverse strength of the standard manufacture is fully 100 per cent. greater than that of such imitations as have been mentioned above.

The second paragraph above gives the initial process of manufacture of Poilite, following on which it is compressed by hydraulic appliances, and thereafter matured and rendered suitable to the special purposes for which it is intended. For roof tiles it is made in three colours—grey (the natural colour of the cement), blue (approximating to slate colour), and red (approximating to brick colour). For the linings of walls and ceilings, as well as for roofs the slabs are prepared with well-squared edges in useful standard sizes, and it is a well-known and interesting fact that, *inter alia*, they constitute a specific cure for outside and inside damp walls having northern exposures, as well as a sure protection from fire when used in lining hospitals, ships' cabins, theatres, cinematograph shows, etc. They also serve admirably for the walling and ceilings of hotels, dwelling-houses, or for industrial

establishments in place of board or plaster which may be dangerous, owing to their combustibility; or for casings to carry electric wires, in order to prevent fire in the event of short circuit. The slabs are in universal demand in the construction of bungalows or houses framed of wood or iron, but especially in remote localities where, owing to altitude or difficulties of transport, scarcity of skilled labour and supply of ordinary building materials are not available. They have also been standardised for use in the construction of large railway buildings, schools, colonial bungalows, sheds, kiosks, and in every class of permanent building in home and export markets. It should be mentioned that, since the establishment of this industry in England, no less than 150,000 tons of the material have been employed for military purposes under H.M. Office of Works, the War Office, the Ministry of Munitions, the Board of Trade (Explosives Department), etc. Moreover, the use of Poilite in the construction of earthquake-resisting houses, though a difficult problem, has been rationally and effectively solved in Central America and Japan, as well as in such countries as New Zealand, which are liable to earthquakes.

HISTORICAL.

A history of unique and special interest is connected with the introduction of asbestos cement tiles and sheets. They were originally manufactured on the Continent under what were known as the Hatschek patents, and in all probability their manufacture would still be carried out exclusively abroad had it not been for the Patents Act which Mr. Lloyd George, then President of the Board of Trade, carried through the House of Commons in 1907. The patents in question were the first to come before our Courts of Law under that Act, and after long and exhaustive hearings the decision was given against those who endeavoured to restrict the production of asbestos cement tiles and sheets to foreign countries. The case was heard on November 26 and December 9, 1908, before the Comptroller of Patents, and on an appeal to the High Court in March, 1909, the revocation of the Comptroller was confirmed. The force of a judgment on identical lines, first by the Comptroller and then by Mr. Justice Parker, in the High Court of Justice, needs no emphasis. Mr. Justice Parker, in a long and elaborate judgment, which reviewed the whole of the evidence, put the gist of the case very clearly when he said that the patentee, while obtaining his patent rights in this country and corresponding patents in Germany, France, and Belgium, devoted himself to the establishment abroad of industries in which the patented process was carried on; using the monopoly conferred upon him by his patent in this country, not for the purpose of establishing a new industry here, but in order to secure to some foreign licensee the monopoly of selling in this country articles manufactured abroad. In Mr. Justice Parker's opinion a new industry might have arisen in this country but for the manner in which the patentee exercised his patent rights. "Nothing has been proved," said Mr. Justice Parker, "either as to the relative cost of material or wages, or as to difference in local conditions, which points to the economic impossibility of such an industry having grown up in the United Kingdom if no preference had been conferred on foreigners." Now, however, thanks to this judgment and to the Patent Act of 1907, this new industry has been established in the United Kingdom.

There appears to have been not the shadow of a doubt as to the justice of revoking the patents and of the refusal of the Comptroller to suspend the revocation; and hence the establishment of works in England producing asbestos cement tiles and sheets known as Poilite.

This material is one of the most successful innovations of recent years, and has led to the introduction in Great Britain and its colonies of asbestos tiles and sheets as roofing and building material in place of corrugated iron, and of ordinary tiles and slates. For roofing Poilite possesses all the better qualities of the other best known roofing materials, and is free from flaws or "faults" and other numerous defects. It is, in fact, the constructional engineer's desideratum—a "ready" and stormproof roofing, easy to fix and requiring no upkeep, and reaching the highest standard of watertight, durable, and economical roof covering for every class of building, while as a wall and ceiling lining its utility is recognised in no less degree. It should, however, be said that the lively demand for the roofing is naturally exceeded by that for the material issued for wall and ceiling lining. The material is light, weighing about 13 lbs. per square foot; it is practically non-absorbent and unaffected by the heaviest frosts and severest heats, or by air saturated with sea salt. It effectively withstands the most violent winds; it has a perfectly smooth and unflaking surface, off which the rain and snow slide readily; it requires no repairs, and indefinitely retains its pleasing, clean, and artistic appearance.

We should point out that the Inspector-General of Royal Engineers of an Allied State, in order to satisfy himself as to the precise value of the use of such artificial slates and slabs in military constructions and hutments, both from the economic and the technical point of view, appointed a Commission of Engineer Officers to report thereon prior to the outbreak of the present war, and the report was entirely favourable. The concluding words by the Commission in question stated that:—

"As the result of our experiments, we beg to report that this asbestos cement roofing and lining material is superior to other articles of the same kind owing to its imperviousness to water, its resistance to bending strain and impact, its incombustibility, frost-proof and weather and fire-proof and insulating qualities, and its lightness is of obvious economic advantage, and that it may therefore be usefully adopted for all classes of military buildings. The price of such material is not above that of competitive building products if we take into account the great economy of timber which can be effected by its use, and the total elimination of the cost of upkeep, which is so high for all other permanent roofing materials."

This report is the more significant having regard to the large use made of the material by H.M. Government and by the Red Cross Commissions in England acting for the Dominions. Such a report is of special interest at this juncture, when continuous use and experience spread over many years, coupled with experiments and analyses made in laboratories for testing building materials throughout the world, have demonstrated that Poilite deservedly holds its present high rank as a building material throughout the civilised world, and that a bright future awaits the British manufacturers who inaugurated the factories in England now devoted to its production. The

future of the industry which we have dealt with, of course, depends to some extent on the question whether the resolution to support our country's productions will hold good after the stress of the present war; but by further augmenting output, which can be fully absorbed, we are confident that the cost of production of all really good things can be maintained on such a low basis as to enable British makers to hold their own against all comers in the numerous fields of action which are already peculiarly our own.

B. DUNEDIN.

THE HOUSE AS A HOME.

By ARTHUR KEEN, F.R.I.B.A.

The House as a Home was the theme of an address given by Mr. Arthur Keen at Carpenters' Hall, London, on Wednesday, March 13. He said there was a large class of houses built for state and entertainment, which were palaces rather than houses, and were not homes in the true sense of the word. A home was a house that had due relation to the personality of its owner and marked his tastes and manner of life. Perhaps ninety per cent. of us had to live in ready-made houses standing in grim rows, endless and alike, expressing very little beyond the fact that the rent was probably so much a year. Living under such conditions our lives tended to become correspondingly limited; the physical limitation involved the mental one; and we became narrow, formal and limited in our mental outlook in some proportion to the narrowness and limitation of our dwellings. A home should be distinctive and expressive—expressive of its owner's social standing, education, pursuits and pleasures.

Mr. Keen threw on the screen an illustration of a house which, he said, conveyed a feeling of comfortable circumstances, of quiet, regular life and kindly generous outlook on things. But what, he asked, was to be said about those who lived in such houses as lined the average London street? Such people might be anything that was good and worthy, or they might be bad and mean; their houses gave no indication. Living in towns, we had to take our houses as we found them—ready-made. Unless we were rich we could not build for ourselves; this was difficult in the country and impossible in the town.

Mr. Keen continued: What then can be done to make the lot of those who have definite aspirations and ideals more bearable? The education of the speculating builder is a slow process, and yet this much abused individual, with all his trials and losses and disappointments, is a most responsive person and will follow the light if he sees it. Like the cheap tailor or the bookseller, he knows that his chance of success lies in offering the goods that are wanted, and he is anxious to give his customers what they desire. He labours painfully along, some way behind the fashion of the moment. He infects it with his own lack of taste and education, but he does try to respond to the advancing tastes of those with whom he deals, and to give them what they have learnt to covet or even to value. He does it very badly as regards planning and design, for he is not an artist. He does it equally badly as regards construction, for he is not paid for the best work. If he were to use thick walls, heavy timber and lead, sound joinery and reliable plaster, the rent would be sixty pounds instead of fifty and the house would remain unlet. He finds the taste of the initiated veering towards red brick and tiles, and he follows suit at once. His red brick is a poor pale thing, his tile a thin, hard-looking plate of ill-burnt substance, but they are the best he can do for the money. In the houses of the rich the sitting hall becomes a favoured feature, and our friend the builder immediately transforms the old narrow passage into a hall about six feet square with a fireplace. The fireplace cannot be used—indeed I have ere now seen it converted into a meat safe—but the customer has got what he asked for as nearly as it can be done for the money. And the builder has learnt some things that are of real value. The dreadful back addition, cold and damp, shutting out the sun and light from the rest of the house, is disappear-

ing, or is being so planned that the sitting-room instead of the washhouse has the view of the garden. The houses are getting wider and more cheerful, and the builder is getting to see that by interchange of colour and material and of such things as gables and bays and dormers—and by setting the blocks forwards and backwards at intervals—some interest and relief is brought in, and the street made more attractive. There are self-consciousness, a sense of effort—even of affectation—in most of our new garden villages calling loudly for amendment; but these places are tending rapidly in the right direction, and the munition workers' village at Well Hall, by Woolwich, raw and unseasoned as at the present time it is, shows well enough what the possibilities are when skilful design and thoughtful arrangements are used. At Chelsea, in Vale Avenue, the better kind of house in a row has been made interesting and distinctive enough to please even a captious critic. The problem of successful design in street frontages is not a difficult one at all, in fact it is an easy one, but, like everything else of the kind, it must be dealt with intelligently by those whose business it is to handle such matters.

The lecturer threw another slide on the screen and said that bygone generations of builders, without apparent effort, produced refined, well-proportioned houses. To-day the tradition was gone, and design had to be produced by careful effort on the part of those duly trained for the purpose. Happily the building speculator was beginning to realise that the public found pleasure in well designed streets and good-looking blocks of houses, and that it paid him to meet the rapidly growing demand for these.

A row of houses by Mr. Ernest Newton, P.P.R.I.B.A., formed the next illustration. An interesting feature of the plan was a new departure which secured a side entrance and access to the garden without detaching the houses from one another. To effect this there was a wide open passage between each pair of houses, while above this passage were the bathrooms of the two houses, one facing the garden the other the street. The party wall did not run straight through; it ran between the bathrooms. This arrangement, said Mr. Keen, might seem likely to shock the solicitor whose duty it was to draw the leases of the property; but there was no real trouble as to the conveyance of the ground; and this method of planning houses in a row would probably be adopted freely.

Speaking of a much larger kind of house, the lecturer said that the considerations that applied in the case of small terrace houses in humble circumstances were just as pressing in the case of large West End ones. He had in mind the arrangement of a large London house built by Mr. Norman Shaw. In such a house a large entrance hall was invaluable when receptions and other social functions were in progress; but such an entrance hall was very seldom found, for town sites were not wide enough to give a good hall as well as a sitting room looking into the street. Mr. Norman Shaw had arranged a hall the full width of the house but made very low. Behind it was the dining-room up a few wide steps and made very high. Above the hall was a morning room, also very low, and the height of the dining-room plus the steps was equal to the other two low rooms in front of it. On the floor above, the drawing rooms were carried on one level over the whole space from front to back. It was in ways like this that skilful planning might achieve on an ordinary London site many of the advantages of a country house; but we were so used to the humdrum orthodox plan that we did not perceive the better arrangements that were often quite possible.

From the commercial point of view, Mr. Keen said that sound planning was vital. He had heard only lately of a housing scheme carried out on hilly ground, where the number of houses shown on the accepted plan was more than doubled. This was due to some ingenious person discovering that by adopting wide shallow houses, instead of deep narrow ones, the land could be used to far greater advantage. Wide shallow houses were worth a great deal of consideration. They not only gave the opportunity for great variety in the outlook from the windows, they were not

only very cheerful and pleasant to live in, but they were often more economical in building than the square, concentrated type of house.

Proceeding, the lecturer showed illustrations of a number of houses, and pointed out the distinctive features in their designs. In one of these houses the pantry formed a passage-way to the kitchen. This arrangement, said Mr. Keen, had been criticised with more force than judgment. Certainly the operations of the pantry were concerned with silver and glass, table linen, and so forth; and if the family lived in affluence with a retinue of servants, it was a place of importance. But in the average middle-class house the pantry was a simple matter, and it was convenient to go through it on the way to the kitchen, so as to leave in it the things that belonged to it, and to carry the rest to kitchen and scullery. Space also was a consideration, and if the room that would be taken up by a passage-way was thrown into the pantry, the latter became large enough to be easy to work in.

In like manner with the hall. In a big country house, where the Hunt might meet for lunch, or where a tenants' supper might be sometimes held—where large parties of guests were common in everyday life—a big hall was valuable. Mr. Keen illustrated this by some examples on the screen. But in the house of modest size the hall was simply a passage-way to the various sitting-rooms. In many middle-class houses the sitting hall, as it was called, was good room wasted. It was too much of a passage-way for real comfort, and was simply not required for the purposes of the hall of a great country house. Probably the better way was to accept the fact of the necessary passage-way, and form it as a really good and dignified corridor, wide and ample, and to put the rest of the space into a definite room.

Another modern development or rediscovery was the loggia—a common enough feature in old Elizabethan and Jacobean mansions. The modern loggia in a country house of moderate pretensions was one of the most useful and delightful accessories to house and garden. It was a connecting link between them, and almost as useful on a summer's day as the drawing-room on a winter's evening. It ought to be sunny, but not uncomfortably hot, easy of approach without allowing much garden gravel to be trodden into the house; and, further, it should be so placed that breakfast and tea—or, even, lunch and dinner—could be served in it without difficulty. It should be deep enough to give room for a table; but if windows looked into it care should be taken that there was adequate light from elsewhere, because those windows would not be of much use in winter time. Further, it should be borne in mind that there was a tendency for people to take their beds into the open air in summer; and, therefore, a flat roof to the loggia was often a most useful balcony, big enough to meet this eminently desirable development.

The lecturer pointed out that these various requirements were met in the house whose picture he was throwing on the screen. He continued: And in other respects, too, the house has very good points, as a closely planned, well-roofed house; and one in which the appearance is dependent on the composition of parts rather than elaboration of detail. After all, this is the only really sound basis for the external design of a house. If the proportions and grouping are right, nothing else matters very much, but if the house fails in these respects no amount of detail or ornament will redeem it or make it acceptable.

One can tell at a glance at that plan (Mr. Keen was here showing another slide, "West Green," by Mr. E. Newton) that the building must compose well. It could hardly be spoilt by any handling of the elevations, however clumsy, because the lines and masses are well opposed, the roofing simple and natural; and there is obviously plenty of light and shade and every opportunity for effective grouping. This view of the exterior shows that it is actually so, and, indeed, the house is a very perfect one in every aspect of it. It has what is so absolutely desirable, the feeling of being in agreement with its surroundings. It is quiet and broad in its treatment, and with nothing aggressive or ill-mannered about it. It is the

old question of fitness. A building that is beautiful in a fine city may be an impertinence in a country town; a house that is almost like a natural part of the landscape in Cornwall may be a mere disfigurement in Surrey.

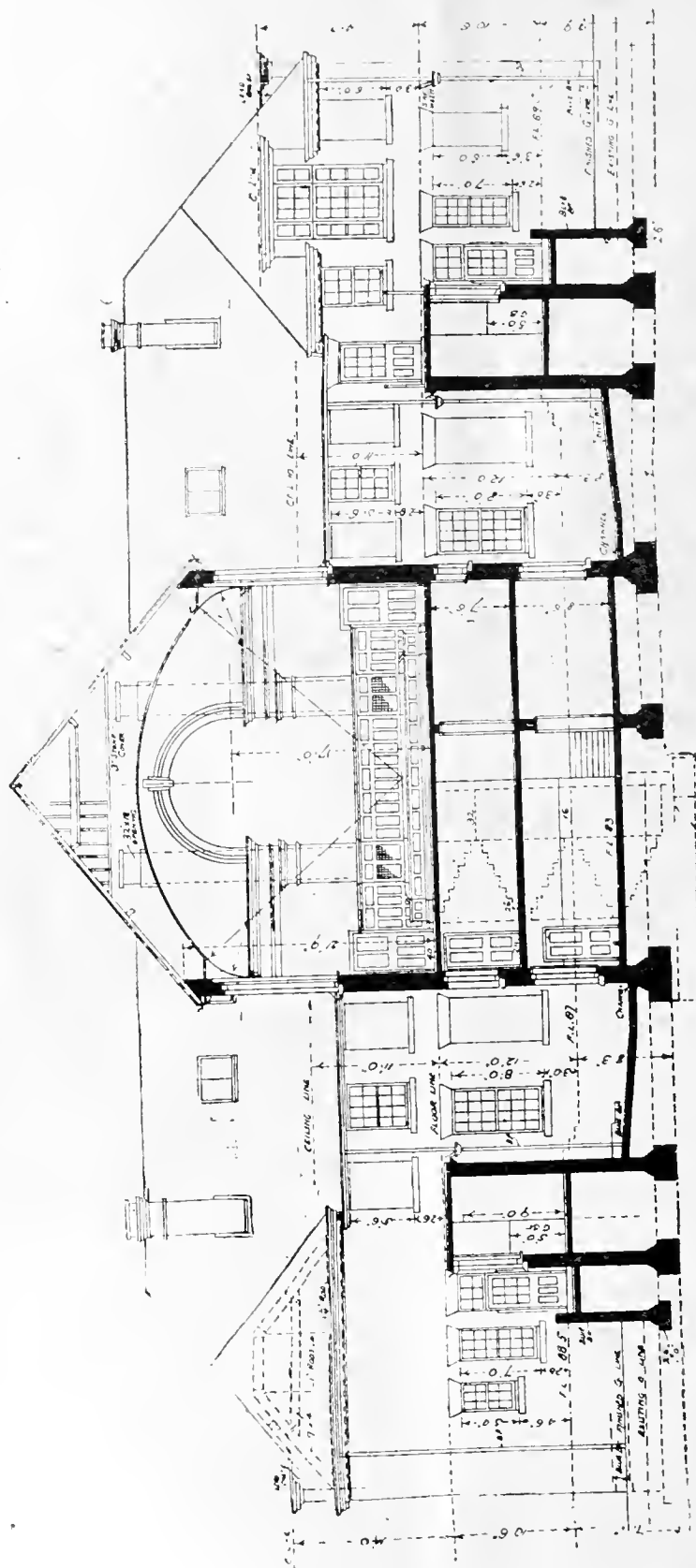
Some L-shaped houses were among those whose plans and elevations were shown. The L-shaped house, said Mr. Keen, was often most useful in dealing with narrow plots of land, and was very economical in arrangement as regards passages and approaches. It made the most of an unfavourable site. A house at Hampstead illustrated this fact. The site was a small corner where two roads met, and with no proper room for a garden in the ordinary sense; but a good-sized dwelling had been erected by planning in the L form, and pushing the house back as near to both boundaries as the Building Act allowed. Quite a respectable share of garden ground was left in the angle in front.

Another house shown had been built for a director of the Bath Stone Company, and was related to its owner in a personal way by being faced with bath stone, both inside and out. A feature of the construction was that it was built around a courtyard. A courtyard in the middle of a small house, said Mr. Keen, was generally a damp and unattractive place, but in a one-storey house like this it was sunny and bright, and a very pleasant, sheltered place to sit in.

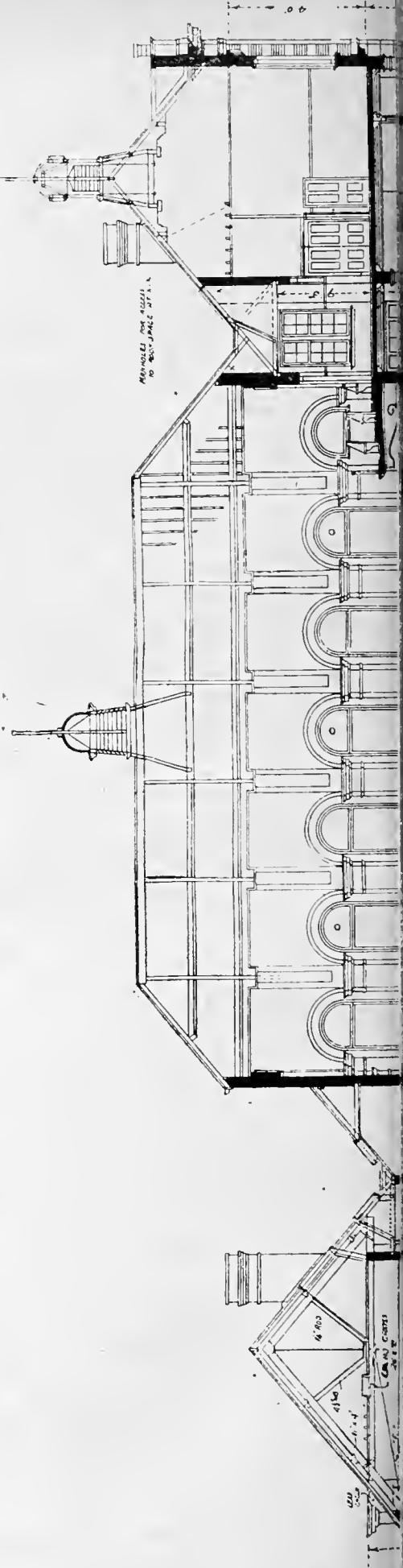
Another illustration showed an arrangement giving a view from the entrance door right through into the garden—a very attractive arrangement in a country house. A feature of the house was that a good deal of quiet, unobtrusive diaper work in the walling gave it texture. One of the differences between old houses and new, the lecturer said, was that old houses had texture. The action of time and weather in making surfaces uneven, the growth of moss and lichen, the infinite variety in the reflection of light inseparable from old glass, the inequality of colour due to growth or deposit or inherent in the original material—all these served to harmonise colour, to give light and shade in every surface, and to fill the shadows with reflected light so as to make them transparent and interesting. Architects sought to impart the quality to modern work; and hand as opposed to machine work on building material was most valuable in giving texture—provided the hand did not itself become a mere machine. But mechanical perfection was too often the ideal of the workman—straight lines, sharp angles, and smooth and even surface and colour. But such things carried to perfection marred the appearance of a building seen as a whole; and architects were always longing to find men who, knowing their job thoroughly, could be trusted to leave the work with the mark on it of the hand and tool—the evidence that it had been done with intelligence and pleasure.

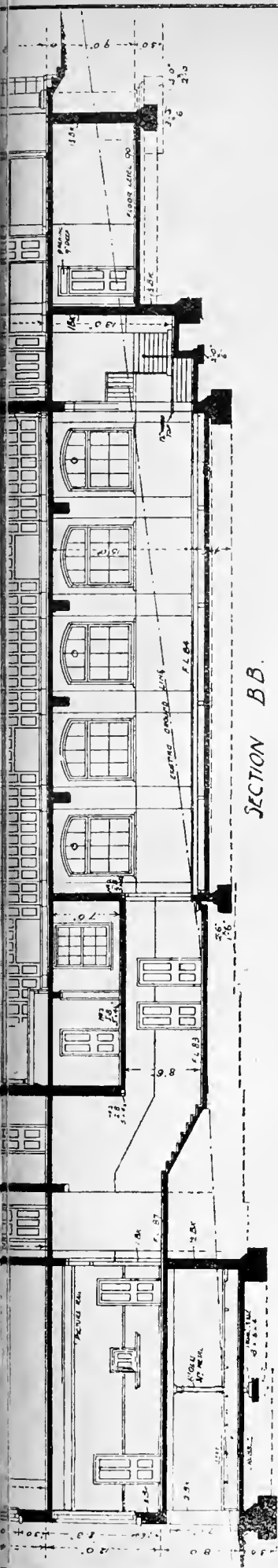
One of the last of the illustrations thrown on the screen showed a house called Dalnyreed, designed by Mr. Edgar Wood, and erected on the chalk hills at Royston. Here the distinctive feature was that to meet a difficulty in the water supply, and enable rain water to be collected clean, the roof was flat. When rain water had to be stored a roof that could be well washed before winter, said Mr. Keen, was a very desirable thing, and flat roofs would become far more common than they were at present. Concrete and asphalt made them practicable, and the possibilities of roof gardens were not to be despised. In some situations these might be a success provided chimneys and ventilating shafts were carried clear above the roof. But whether or not the roof was gardened, flat roofs in towns would become common.

Concluding, Mr. Keen said that we might claim to have attained to methods of design in house-building that were sound and serious, but elastic enough to meet all requirements in a very reasonable spirit. Symmetry was a very good feature in architectural design; but the builders of the great eighteenth-century mansions were slaves to it, and their houses were monuments of failure to meet essential conditions. To-day we depended materially on symmetry, but realised that this was not inconsistent with a due measure of irregularity, that, indeed, its value might be enhanced by contrast.

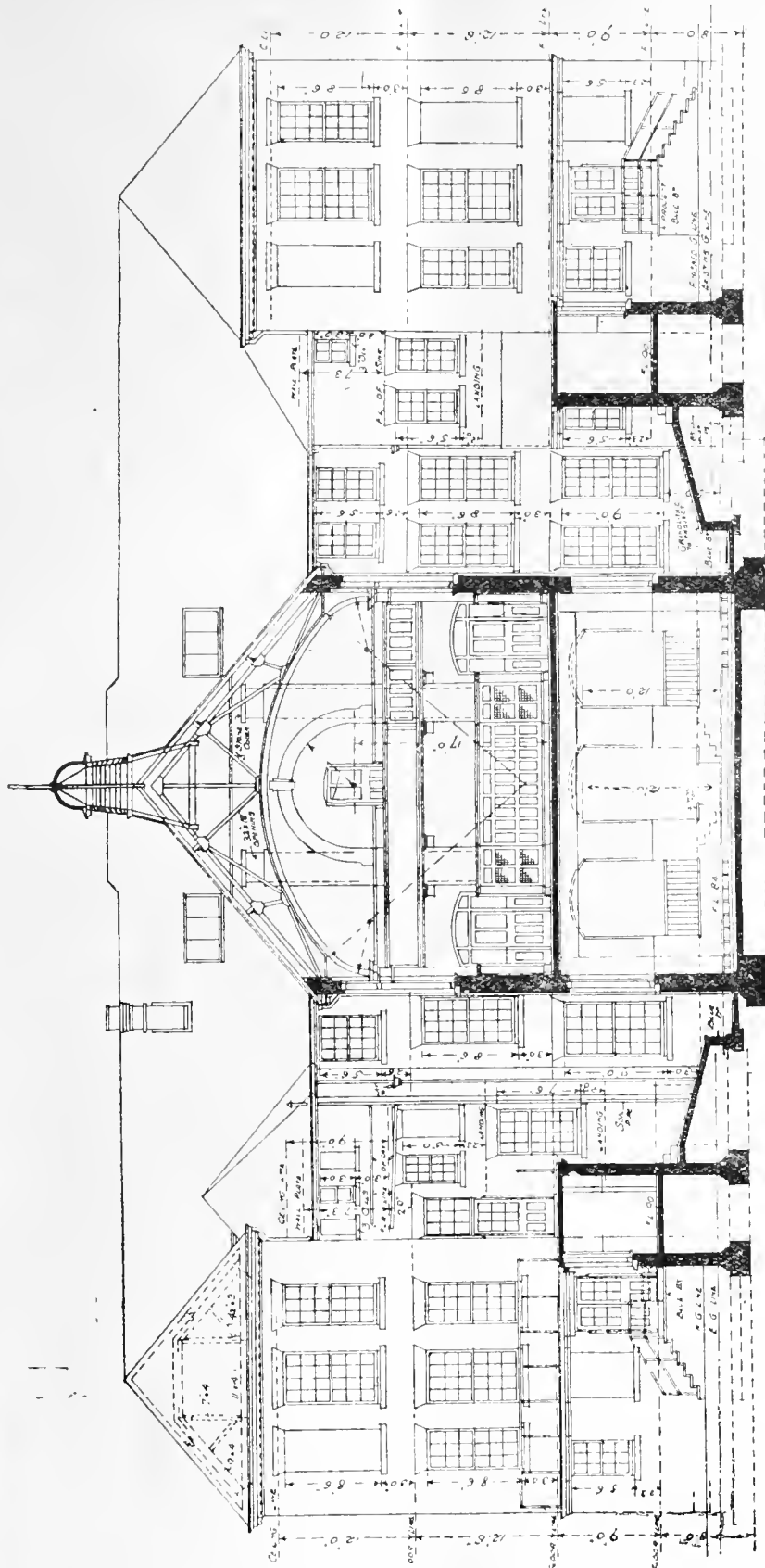


SECTION A.A.





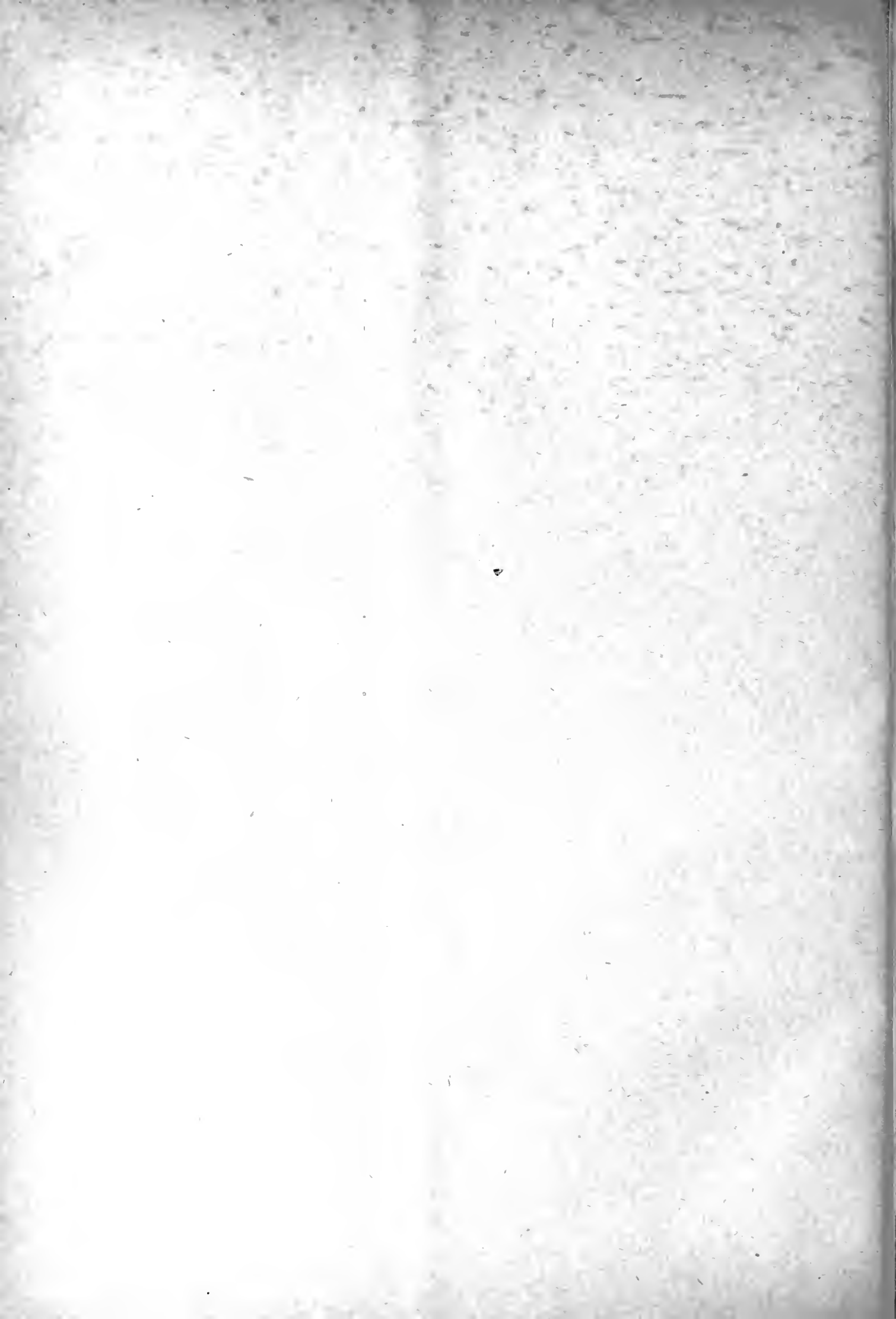
SECTION B.B.

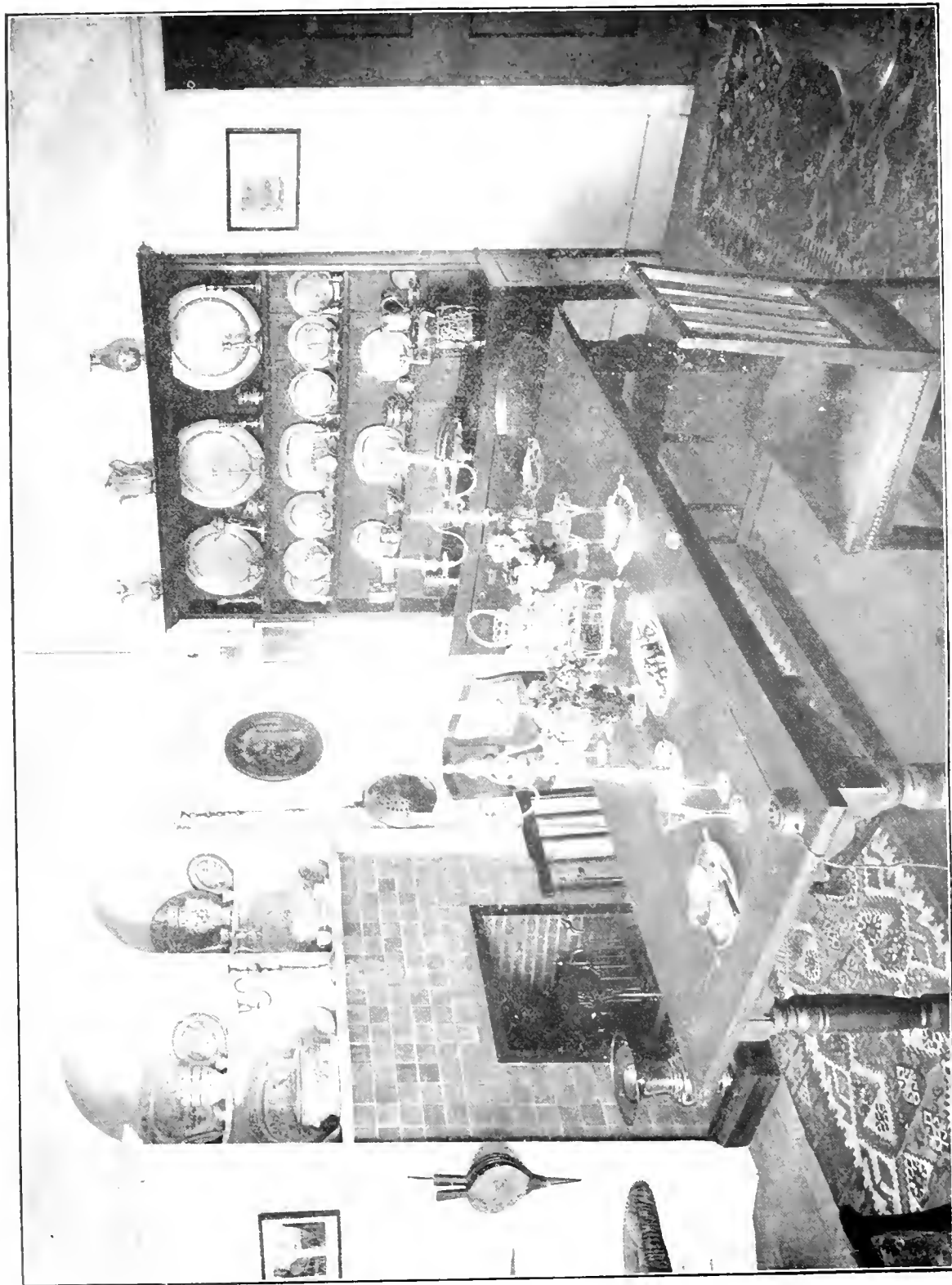


SECTION C.C.

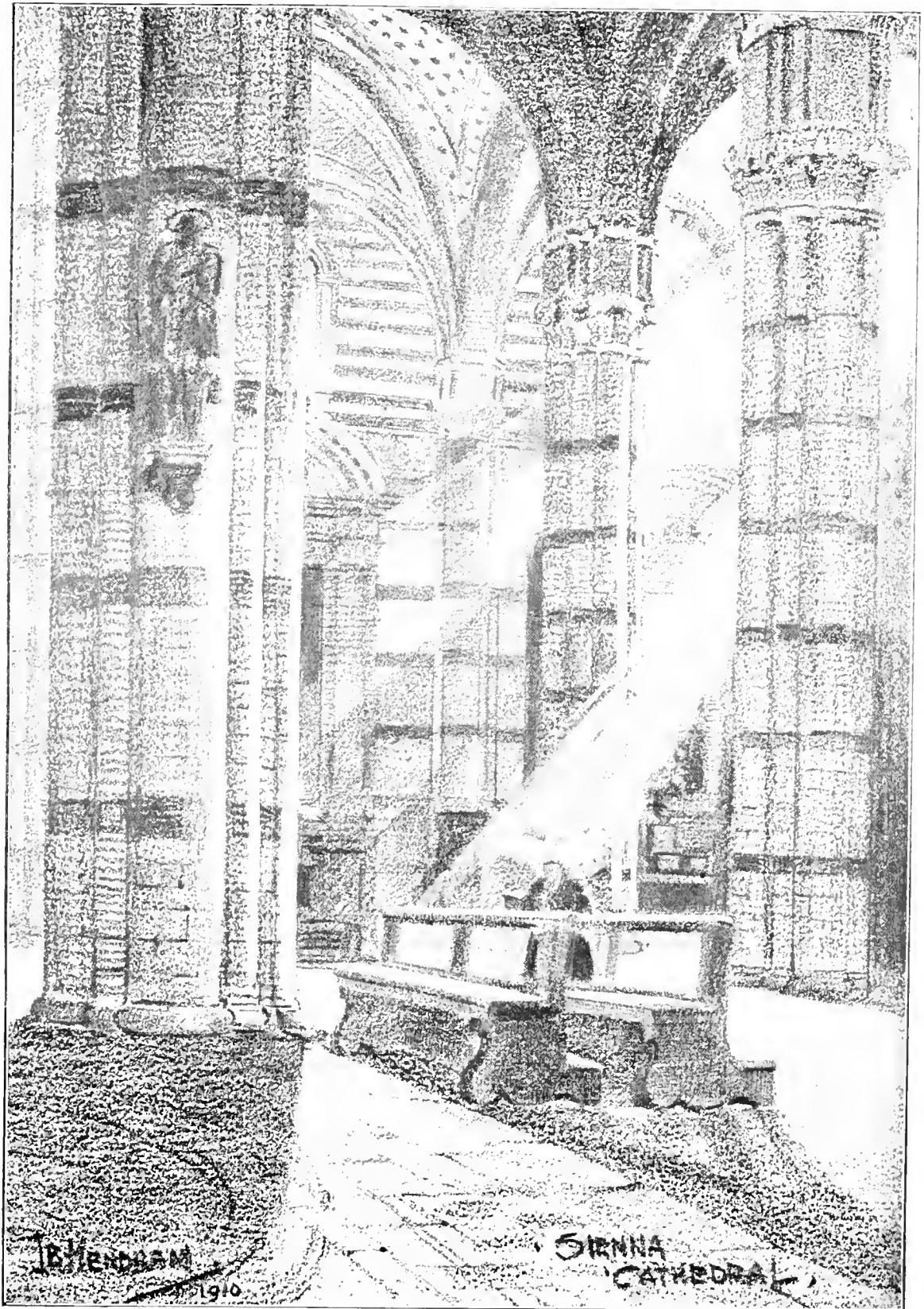
NEW HIGH SCHOOL FOR GIRLS FOR ST. MARTIN-IN-THE-FIELDS, TRAFALGAR SQUARE, TO BE BUILT AT TULSE HILL.

Mr. H. CARTER PEGG, F.R.I.B.A., Architect.





"STONEHOUSE," JOHANNESBURG: THE DINING ROOM.
THE SOUTH AFRICAN RESIDENCE OF MR. HERBERT BAKER, F.R.I.B.A., Architect.

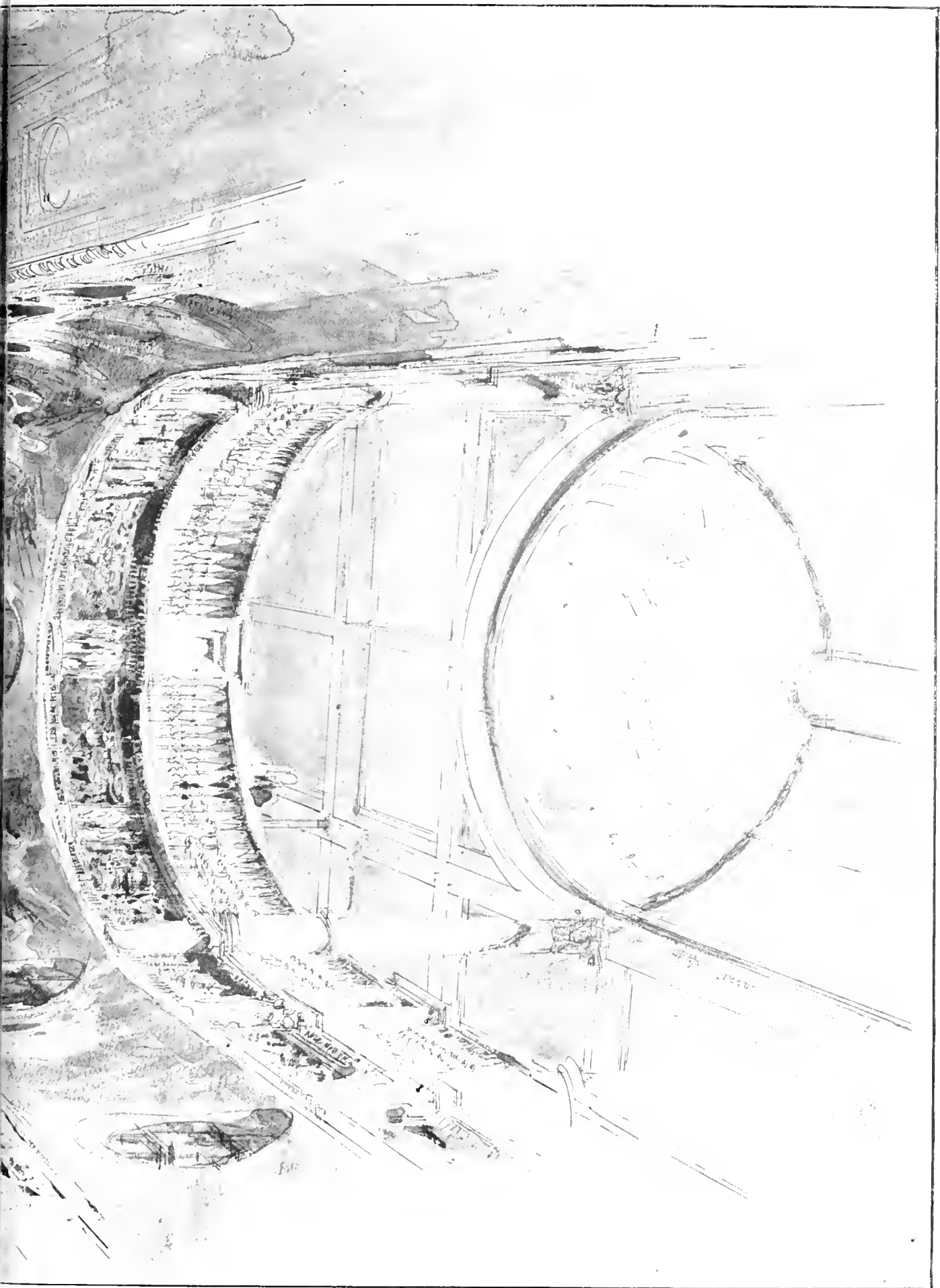


SIENNA CATHEDRAL.—Sketch by Lieut. J. B. MENDHAM, R.F.C.

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PROPOSED SALOON OF A LINER STEAMSHIP. MESSRS. T. E. COLCUTT and STANLEY HAMM, ARCHITECTS.





Our Illustrations.

PROPOSED SALOON OF A LINER STEAMSHIP.

This plate shows a design intended to be carried out for the central portions of a ship's dining saloon. The centre of the saloon is lighted by means of a glass dome seen through the ship's well, as illustrated. The ship's corridors on the next deck are also lighted by this means: hence the openings provided for in this scheme. The rather severe treatment was suggested by the construction, which must always in ship design be overcome, and often is the great determining factor as to spacing, proportion, etc. The saloon will be panelled in oak, but the remainder will be finished ivory-white, with colour decoration. Messrs. T. E. Colcutt, F.R.I.B.A., and Stanley Hamp, A.R.I.B.A., of Bloomsbury Square, are the architects.

"STONEHOUSE," JOHANNESBURG. THE SOUTH AFRICAN RESIDENCE OF MR. HERBERT BAKER, F.R.I.B.A., ARCHITECT. THE DINING-ROOM.

In our issue of March 13 we gave two exterior views and two plans of Mr. Baker's house, with a description, in which reference was given to the old furniture collected by the owner from Colonial sources. The photograph here reproduced of the dining-room exhibits some of these interesting pieces, which are admirably adapted to the house.

SIENNA CATHEDRAL INTERIOR.

Lient. J. B. Mendham, R.F.C., recently made this graphic pencil sketch. An uncommon view has been chosen, to show in some degree the famous colour effect of this beautiful building. The white marble used in its construction alternates with the black, and has grown of a brownish tint by age. This church is the most purely Gothic of all the Italian cathedrals designed by national architects. The predominance of horizontal lines shows, however, unmistakably that the Italians never really seized the true idea of Gothic architecture. The dome is Etruscan and Roman. The interior, which looks so large owing to the excellence of its proportions, is but the transept of the old building lengthened a little, and surmounted by a cupola, and added to by the building of a campanile. Soon after the cathedral was commenced a plague nearly depopulated Sienna, and reduced the town to penury. Only a fragment was in consequence completed, and the structure long remained unfinished. The portion of the nave still standing gives an idea of what the church would have been had it been finished, surpassing in scale all other Gothic churches south of the Alps. The pavement, by Beccafumi, is inlaid with a kind of intarsia work in marble, and the pulpit of Giovanni Pisano, finished in 1268, is second to none in interest. It serves as a striking foil to the stately row of piers, against one of which the pulpit now stands. The façade, externally, was designed by Nicolo da Pisa. The interior as now seen dates from about 1356. The wheel window over the entrance was the work of Pierius del Vaga; the choir stalls by Barili in 1505.

NEW HIGH SCHOOL FOR GIRLS FOR ST. MARTIN-IN-THE-FIELDS, TO BE BUILT AT TULSE HILL, S.W.

We gave the chief plans and front elevation of these buildings in our issue for December 26 last, and on January 9 a double-page sheet of elevational details appeared. To-day we have reproduced the working drawings of the three leading sections, which make perfectly clear how the several parts of the premises are arranged with regard to the rapid fall of the site from front to rear; also they show how the connecting corridors link up the back or dining-room block, set out on the lower ground floor. The transverse passage is to be noted communicating with the gymnasium, which is situate below the assembly hall of the school. We shall shortly give plans which include the playshed, arranged under the dining-room at the rear. The first-floor plan will exhibit how the great hall comes at its gallery level. The ground story is level with the main entrance. This means, in consequence of the fall of the land, that the first floor at the

back tallies with the street level in the front. A games store and the boiler house are contrived on either side of the playshed, facing the playground. Mr. H. Carter Pegg, F.R.I.B.A., of Croydon and Parliament Street, S.W., is the architect.

ENGLISH MEDIEVAL WALL PAINTINGS.*

(Concluded from page 202.)

"Do not marvel, Christopher," replied the Child to Reprobos, "you have borne on your shoulder not only the whole world for a moment, but also Him who created the world. I am the Christ, the King whom you serve in this work." And he told him that as a token of the truth he must plant his staff upon the shore, and in the morning he would find it like a palm, bearing flowers and leaves and dates.

This Saint, St. Christopher, was in particular the saint of the poor, and representations of him were placed in practically every English church upon the north wall opposite the entrance, so that he should be the first object which met the eye upon entering. His task of bearing people over the turbulent stream was emblematic of the struggles and endurance of those who toil laboriously from day to day; their hope of eternal life was kept fresh by the thought of the reward which St. Christopher won. Many of the representations bear an inscription, saying that those who gaze upon St. Christopher shall that day feel no weariness; and probably the position visible from the porch of the church was chosen for the painting of this Saint so that even those toilers for whom there was no pause from labour, might look in at the door as they passed, fix their eyes for a moment upon his great figure, and go strengthened on their way.

I have dwelt for a moment upon this one subject, because, as I say, practically every church throughout the country possesses a painting of St. Christopher; and it may thus be taken to illustrate better than any other the motive which lay behind the paintings, the chief purpose for which they were made. Similarly, in the eastern counties, St. Edmund, king and martyr, was a popular hero. He, consequently was represented there many times. There were also numerous examples of St. George all over the country—the church walls, indeed, being the illustrated story-book which contained the legends most popular with the people.

The prevalence, therefore, of these favourite legends as the common subjects for wall paintings, is very definite evidence in support of my claim that their first and most important object was an appeal to the popular imagination, that, in a word, they were democratic, both in their purpose and their method. And thus the question of their beauty and their artistic merit cannot be decided merely by comparing them with one's ideas of abstract beauty, or with the wealthy and luxurious art of the Italian Renaissance. Artistic merit is a relative quality, and no work of art can possess it if the means it employs are inadequate to its purpose. But if, on the other hand, paintings, somewhat crude in drawing, often meagre in colour, rough, rather impressionistic, or even over-conventional, do succeed in achieving the purpose their artists set out to achieve, then, I think, there is no doubt that they possess artistic merit, and are of immense value in the history of art. But if we are unable to see it, then, I submit, there is surely something wrong with our standard of judgment.

As to the history of these paintings in England, it is claimed by several authorities that a few of the existing fragments are pre-Norman, and they base the claim generally upon a certain simplicity and roughness of execution in the painting itself, while in one or two cases the painting has been uncovered upon the original walls of a Saxon church which at a later date had been cut through for the insertion of a Norman window or doorway. A Norman arch cutting through and partially destroying a painting upon a Saxon wall is,

of course, strongly presumptive evidence of very early work. At the same time the claim is, I think, entirely conjectural; and Norman windows and doors were still being inserted in old Saxon buildings well on towards the end of the thirteenth century. It is thirteenth century paintings chiefly that we shall see to-night, during which period the greatest activity was shown in this branch of our native art, as in other phases of art also. Indeed to such an extent did the arts and crafts develop during this century, that many people have been disposed to idealise the period and wish for a return to it, failing to realise, however, the harsh poverty common to the time, and the general tyranny under which the population lived. The researches of a few enthusiasts in the charter rolls and documents relating to the great monastic establishments of that day have given us the names of some of the artists who worked upon certain of the most important examples of wall paintings. Walter the Painter, for instance, was a monk of Colchester Priory; and, being transferred to the great Benedictine Abbey of St. Albans, he there, with the assistance of his brother Simon and his nephew Richard, worked at the paintings which still exist in that Cathedral, as also at Canterbury and elsewhere. Toward the end of the thirteenth century Master Thomas was one of the important craftsmen at Westminster, where he worked not only in the Abbey, but upon the walls of the famous painted chamber in Westminster Palace, the paintings of which were uncovered early in the nineteenth century, only to be destroyed entirely in the great fire of 1834, which destroyed our old Houses of Parliament. There are various other names; but so far only the names of a few of the artists are known, though many must have been employed to do the numberless paintings which still exist, but of whom now no trace will ever be found.

With the rise of the guilds toward the end of this century, the painting appears to have passed largely into the guild's control, which body sent its artists from various centres, the chief centre being, of course, London, where the guild movement was particularly strong. Until the middle of the fourteenth century this kind of work proceeded upon similar lines to that already done, but fuller detail was added, carrying the art somewhat away from its early simplicity. The Black Death, which swept over the country in 1348 and the following year or so stopped most work of every description; and in the vast number of people it destroyed doubtless many of the artists fell as its victims; the church and the populace were reduced to the extremities of poverty; and when, after the lapse of years, church decoration could again be commenced, it was impossible to revive the old tradition. At the same time, all work was not quite stopped by this pestilence, for King Edward III. and the convent of Westminster set the example of continuing normal employment among the panic-stricken inhabitants of the metropolis; and Master Hugh, of St. Albans, and three other painters were appointed to carry on the decoration of the cathedral until the year 1355.

The fifteenth century continued the revived work of the late fourteenth, much of it being decoration—often beautiful foliated patterns, flowers, elaborate borders, and masonry patterns. The subject paintings were also elaborated, and the attempt to beautify and adorn often murred the telling of the story, which should be, after all, the pictorial artist's first concern. All through this century and the first part of the sixteenth the tendency grew more and more toward decoration merely as decoration, till the Reformation came, when the wholesale destruction and obliteration of these paintings was ordered upon a plea for the suppression of idolatry, though what idolatry could be found in this love of a church which was made beautiful, comforting, and instructive within I have never quite been able to understand, and suspect the accusation is of the same nature as some modern political methods.

At any rate, though many of the paintings were destroyed, many others were merely obliterated with coats of whitewash, as the easiest way of getting them out of sight; and these latter, when they have been found, and

* A Paper read before the Institute of British Decorators by A. K. Sabin.

wherever possible, have been uncovered during the last hundred years, and some steps taken to preserve them from further destruction.

With this very brief sketch as an inadequate introduction to a subject to which I fear we can hardly expect to do justice to-night, we will pass on to the illustrations of the paintings themselves.

These illustrations will not want much comment from me; but I will indicate their location and some other details of importance concerning them as we pass along.

I must say first that I have classified them roughly into different schools, though, of course, it is not possible in so small a number of paintings to indicate the lines of demarcation in exhaustive detail. These slides are reproductions mostly of drawings by Mr. E. W. Tristram, who has devoted the last dozen years to an exhaustive study of this subject, and has made these and many other beautiful copies of existing paintings. We cannot be too thankful to him for an enthusiasm which has given us these valuable records of a great native art, the originals of which are in so many instances deteriorating and rapidly fading away.

PROFESSIONAL AND TRADE SOCIETIES.

EDINBURGH ARCHITECTURAL ASSOCIATION.—At the fifth meeting of the association to-morrow a lecture will be given on "Two Lost Gems in the Crown of Old Edinburgh—Trinity College Church and the West Bow" (illustrated by lantern slides), by Mr. Henry F. Kerr, A.R.I.B.A. Treating on the West Bow, the ancient access to the Hill Fort on the "Castle Rock," and the later village on the rock, and the state and general entry to the Royal City from the west, its unique character, its associations and memories, the Bowfoot, the Bow Port, the Bowhead, its delightfully varied and quaint buildings, will be described; that its demolition was unnecessary, and how this, one of the strangest and most ancient thoroughfares in Christendom, might have been saved, will be shown. The foundation of Trinity College Church in 1462 by Queen Mary of Gueldres, one of the three fully vaulted churches of Edinburgh, will be mentioned, and Holyrood, St. Giles, and Trinity College Churches compared; discovery of fragmentary plans and photographs before demolition; the plan, choir and transept; central tower, the piers of arcade and tower; exterior and interior and vaulting; re-erected fragment and photographs of piscina, carved caps, etc.; railway Parliamentary plan (1847) to indicate "necessity" for removal; proposed rebuilding on varied sites; the south porch—conservation crosses. New drawings of the original church in progress will be exhibited.

THE ENGINEERING INSTITUTE OF CANADA.—The Canadian Society of Civil Engineers has changed its name to "The Engineering Institute of Canada." At the annual meeting, at Montreal, on January 22-23, the secretary announced that the alteration in the name of the society to the Engineering Institute of Canada was approved by 490 votes to 109. The following are the new officers: President, Mr. H. H. Vaughan; vice-presidents, Mr. H. E. T. Haultain, professor of mining, University of Toronto; Mr. R. F. Hayward, chief engineer and manager of the Western Canada Power Company, Vancouver. Council: District No. 1—Mr. E. Brown, professor of applied mechanics and hydraulics, McGill University, Montreal, and Mr. J. M. Robertson, consulting engineer, Montreal. District No. 2—Mr. D. H. McDougall, general manager, Dominion Iron and Steel Co., Ltd., Sydney, N.S. District No. 3—Mr. Noel E. Brooks, maintenance of way engineer, C.P.R., Sherbrooke, P.Q. District No. 4—Mr. John Murphy, electrical engineer of the Department of Railways and Canals, Ottawa. District No. 5—Mr. P. Gillespie, professor of applied mechanics, University of Toronto. District No. 6—Mr. L. A. Thornton, commissioner of public utilities, Regina. District No. 6—Mr. E. G. Matheson, professor at McGill University College, Vancouver. The new President said the alteration in the

name of the society should effect a change in the society. They could see the possibility of a broad association of engineers, taking in every branch of the profession on an equality. Through the branches and provincial associations the members could represent their views to the Federal and Provincial Governments. The council desired to secure every engineer who was eligible, no matter to what section of the profession he belonged, and the co-operation of members was desired to this end. Every distinction of rank as between all branches of the profession was done away with, and he appealed to the members to make the Engineering Institute of Canada a marked success.

THE ROYAL INSTITUTE OF THE ARCHITECTS OF IRELAND.—The Council Meeting was held at 31, South Frederick Street, Dublin, on the 4th inst. Mr. A. E. Murray occupied the chair. There were also present Messrs. L. O'Callaghan, L. E. H. Deane, R. C. Orpen, G. F. Beckett, J. H. Webb, G. P. Sheridan, E. Bradbury, A. G. C. Millar, F. G. Hicks, F. Batchelor and Frederick Hayes. Hon. Secretary. Reports from the Professional Practice, Library and Examination Committees were received and adopted. It was decided to offer a prize value 2 guineas to the successful candidate who obtained the greater number of marks at the forthcoming examination. Mr. P. J. Neary's certificate of Membership was signed and sealed.

ROYAL SCOTTISH ACADEMY.—The annual assembly of the Royal Scottish Academy was held last Wednesday afternoon, when the report of the proceedings and progress of the Academy during the past year was presented. Sir James Guthrie, President, occupied the chair. Office-bearers were elected for the ensuing year as follows:—Council, Sir James Guthrie, President; Mr. J. L. Wingate, Mr. J. H. Lorimer, Mr. Henry W. Kerr, Mr. Charles Mackie, Mr. Pittendrigh Macgillivray, Mr. W. S. MacGeorge; Mr. W. D. McKay, secretary; and Mr. E. Washington Browne, treasurer.

PREHISTORIC MANUFACTURE.—At the monthly meeting of the Society of Antiquaries of Scotland, held at 24, George Street, last week in the first paper Dr. Hay Fleming, F.S.A.Scot., described three Celtic cross slabs found recently in the portion of St. Andrews burying-ground lying to the northward of St. Rule's Tower, and to the eastward of the east gable of the Cathedral. Dr. Hay Fleming mentioned that Mr. Mackie, who had unearthed the stones, had already dug up no fewer than twenty Celtic cross slabs at St. Andrews more or less complete. The second paper, by Mr. J. Graham, Callander, secretary, recorded the discovery of the fragments of three food vessel urns found on the estate of Seane Palace, near Perth, during the process of clearing ground of trees. Mr. Callander also described a cup-marked stone, found adjacent to the find spot of the urns. A grooved stone also found may have been connected with the Roman camp of Grassy Walls, in the centre of which the discoveries were made. In the third communication, Mr. Ludovic McLellan Mann, F.S.A.Scot., described the occurrences of a rare, natural volcanic glass called pitchstone in the British Islands, and how it was extracted from its sills and dykes by the early inhabitants, exported considerable distances, and manufactured into cutting, boring, and piercing tools and arrow-points. From the island of Arran it was taken by early man into Bute, Ayrshire, Wigtownshire, and perhaps North of Ireland, either as completed implements or as raw material to be worked up. The raw pieces were certainly prepared in Wigtownshire, if not in other parts of the mainland. Mr. Mann stated that this trade and industry were most active during the last phase of the Stone Age, but diminished during the succeeding Bronze Age, and became extinct shortly before the opening of the present era.

The Earl of Plymouth was elected President of the Imperial Arts League for this year at the annual meeting of the League, held last Wednesday, at Leighton House. Sir Frank Warner, who presided, emphasised the need of widening art education and advancing the position of schools in industrial centres.

Correspondence.

INDUSTRIAL HOUSING.

To the Editor of THE BUILDING NEWS.

SIR,—Industrial housing, already eminently topical, will undoubtedly become increasingly important after the war, and, therefore, the thoughtful letter on the subject from a Nottingham firm published in one of your recent issues would probably be widely read. It touches several very interesting points that might be usefully discussed. For instance, the question of the sweating of concrete walls, and the controversy that rages round the contention that concrete roofs cannot be watertight, referred to by your correspondent, prompts a few remarks from me.

There are practical men who say that they have never encountered condensation on concrete; but just as Lancashire, because of its special climate, is particularly suitable for the great cotton industry, so there are certain parts of the British Isles—notably the North of Scotland and Ireland—where sweating walls and ceilings are peculiarly common, though they need not remain so.

I myself first heard of condensation on concrete from a cement-block machine manufacturer who had this trouble in some work erected with his blocks in Ireland. It will be readily conceded that damp walls are cold and dry walls warm. Further the question, "Why does condensation on concrete occur?" is easily answered—because it is less absorbent than brick; but that sweating can be satisfactorily prevented may not be so widely known. The following, taken from my book on Waterproofing Cement, will probably prove interesting and serviceable:—

"To prevent condensation or sweating on interior walls, use a wood float if a cement finish is desired. This gives granular surface. However, it is much better to plaster over the cement with lime-mortar, and this also prevents the alkali which exists in all cement from injuring the wallpaper. The following specification is recommended:—First rough-render the walls with 'Pudloed' cement and sand, lightly but thoroughly scratched to form a key. If the walls are not excessively damp at the time of rendering, follow on with a second rough-rendering, which must be scratched in the same manner. Then the following day float to a fair face with ordinary plasterer's lime and sand mortar (about 3 of sand to 1 of lime), lightly keyed in the usual manner to receive the final setting coat. This to be left a day or two until strong pressure from the thumb leaves no impression, although it would be better if it were left seven to ten days. The finishing coat of lime putty, sand, and plaster of Paris may then be applied with safety."

As to concrete roofs, I shall be pleased to refer any reader to "Pudloed" concrete roofs built in over 100 towns in the British Isles, some of which have been planned by well-known architects and engineers. In no case has a failure to waterproof been recorded.

Both concrete and "Pudlo" are comparatively new building materials, so it is not surprising that some minds run in the old grooves, and that the conditions applying to new methods have to be learnt.—Yours faithfully,

J. H. KERNER-GREENWOOD.

King's Lynn.

Mr. Henry Purves, who, after twenty-one years in the Life Guards, was sanitary inspector at Hendon for over thirty years, has died, aged ninety-one.

Mr. K. J. S. Harris, borough engineer of Weymouth and Melcombe Regis, has received the appointment of city engineer of Georgetown, British Guiana.

Mr. Henry Darley, of 15, Bayswater Avenue, Westbury Park, Bristol, retired naval architect, whose death occurred on January 20 last, left estate valued at £5,850 Os. 1d.

Out of profits the board of the Limmer and Trinidad Lake Asphalt Company have written £4,185 off plant, and £500 off amalgamation expenses. It is proposed to pay a dividend of 7½ per cent., less tax, on the preference and ordinary shares, carrying forward £5,825.

LEGAL INTELLIGENCE.

FLAT BUILDING AND DUCAL GROUND RENT.—A case in which the Duke of Westminster figured as the ground landlord of a site at the Marble Arch came before Mr. Justice Astbury in the Chancery Division last Wednesday and Thursday. The plaintiffs were the Electric Pavilions (Marble Arch), Ltd., and Mr. Israel Davis, their agent, and the defendant was Mr. John William Lorden, a builder, the assignee of the plaintiffs, and the action was brought to get a declaration that the defendant was bound to indemnify the plaintiffs against an annual rent of £2,100, payable to the Duke of Westminster, and also for money which they had paid to the Duke since June 30, 1915. Mr. Cunliffe, K.C., for the plaintiffs, said that in October, 1912, an arrangement was come to between the Duke of Westminster and Mr. Davis, acting on behalf of the plaintiff company, in respect of a piece of land on the south side of Oxford Street and the east side of Park Lane. Two plots (A and B) were included in this very valuable site, and a lease of, in substance, ninety years was granted for each, to begin at different dates but to terminate at the same time. A cinematograph theatre was put on A, and the rent fixed for that plot was £2,900, but only a peppercorn rent was charged for the first twelve months, within which the buildings were to be erected. As to B, the time for the erection of the buildings was extended till March, 1915, eight months after the war began. Mr. Lorden obtained from the plaintiffs an option to take B, and he stepped into their shoes. He proceeded to erect residential flats, but in consequence of the war troubles arose. The Government stopped supplies of steel and commandeered some of his workpeople, and ultimately stopped the buildings altogether. A good deal of correspondence took place between Mr. Lorden and various Government Departments on one hand and between him and the Duke of Westminster on the other, and, reading that correspondence, said counsel, one could not help feeling for Mr. Lorden in the unfortunate position in which he was placed. He had taken this expensive site and spent many thousands of pounds in the erection of the flats, and was stopped before he could make any beneficial use of the property. He adopted no attitude with regard to the Duke or the Government which a patriotic man ought not to adopt. But he was met at every stage in the negotiations with the Duke with this strong attitude, "Whatever happens the Duke must have his rent paid." The Duke, added counsel, probably knew nothing of it; his interests were looked after by a dual board, which, like a company, might have a more adamant heart or might have no body to be kicked or soul to be saved. At all events, it was of no use to appeal for the sympathies, the everlasting refrain of the dual board being, "The noble Duke insists on his rent."—His Lordship, giving judgment, said it was abundantly clear that although in the lease of one plot to the plaintiff company a rent of £5,000 was reserved, it was, in fact, the sum of the two rents payable in respect of the two plots. He could not help thinking that if this matter were brought to the attention of the Duke of Westminster he would think it right to reconsider the attitude which had been taken up on his behalf. There would be no judgment in respect of which execution could issue, although there would be liberty to apply for judgment. In the meantime, the matter could be laid before the Duke of Westminster's advisers with a view to seeing whether some equitable arrangement could not be made between the three parties. His Lordship then declared that, subject to the power of the Court under the Act of 1917 to modify terms, and by virtue of the assignment of the building agreement, the defendant was bound to indemnify the plaintiffs against the sum of £2,100 payable in respect of the plot in question.

To save paper, rags, old metal, bones, jars, broken glass, and pig food, the Hackney Council is being recommended to agree to the fixing of an experimental sorting grid, at an estimated cost of £150.

In connection with the Welsh National School of Medicine, official sanction has been given for the erection of the block that will contain the public health department and the school of preventive medicines. The building will be erected on the site of college property in the Parade. The cost is estimated at from £25,000 to £30,000. Colonel E. M. Bruce-Vaughan, 21, Dumfries Place, Cardiff, is the architect.

Our Office Table.

Mr. E. Nove writes in the course of a letter from 33, Brazennose Street, Manchester: "If this problem affects the public at large, then why cannot the Government treat this matter as the Ministry of Munitions has engineering works, railways, and coal mines? I should say that all the existing houses under £26 rateable value should be nationalised; the prices of purchasing can be based upon valuations, probably payable by Government security, such realised capital to be reinvested in the new developments, for which purpose "local land and building banks" should be established. The builders should work for the Government and the nation with the same energy as is done in the production of war materials—in fact, some of the property-owners could be utilised as rent-collectors to the Government, all taxation in connection with the rent to be made one charge upon the tenant. By so doing much time and money could be saved, and Mr. Fisher would probably have no need to offer the public money value of 9s. for the return of 6s.

At a joint meeting of the Cockburn Association and the Old Edinburgh Club, held last week, a lecture on "Old Edinburgh" was delivered by Mr. Henry F. Kerr, A.R.I.B.A. Professor Baldwin Brown presided over a large attendance. Mr. Kerr dealt at the outset with the topography of Edinburgh before it was a city, and then discussed various architectural developments. Reference was made to the supplanting of the old closes by small courts, and later by squares. He spoke of city improvements, and how they had destroyed a great number of the old Scottish buildings, often quite unnecessarily. With a little care and consideration many of them might have been preserved. In conclusion, he made an appeal for what he described as the vanishing city, and pointed to parts of the old city that might be saved for future generations.

In accordance with the provisions of the Valuation (Metropolis) Act, 1869, as amended by subsequent Acts, the totals of the supplemental valuation lists deposited with the Council have been printed and sent to the several rating authorities in London. The return contains the totals of the valuation lists coming into force on April 6, 1918, subject to appeals. The county totals and the increase compared with those in force on April 6, 1917, as altered by appeals, are as follows:—

	Totals coming into force on April 6th, 1918, subject to appeals.	£	s.	Increase compared with totals in force on April 6th, 1917.
Gross value—				
Including foreshore properties	55,652,559	0	138,743	
Excluding foreshore properties	55,620,537	0	137,464	
Rateable value—				
Including foreshore properties	45,565,174	10	217,371	
Excluding foreshore properties	45,534,738	10	216,557	
Assessable value—				
General county—				
Including foreshore properties	45,558,635	0	217,409	
Excluding foreshore properties	45,528,199	0	216,595	
Special county	39,669,817	0	188,501	

As compared with the average increase by the supplemental valuation lists of the last quinquennium, the rateable increase shown by the present list represents a rise of about £16,000, and a rise of £69,000 on last year's figures. The principal increases are:—City of Westminster, £73,356 (1.07 per cent.); Woolwich, £41,496 (4.83 per cent.); City of London, £28,094 (.49 per cent.); Holborn, £19,330 (1.67 per cent.); St. Marylebone, £13,074 (.59 per cent.); and Bermondsey, £10,228 (1.13 per cent.).

The annual report of the Ashmolean Museum states that among the acquisitions of the year are the purchases from the Hope Collection—the "statue" and the "bust"—the statue possibly that of Aspasia, the bust almost certainly that of the Roman Empress Livia. For these the museum has to thank both colleges and private donors, and in particular for the last Sir Arthur Evans. The additions to the collection of vases, due to the judgment and generosity of Mr. J. D. Beazley and Mr. E. P. Warren, are also re-

markable. The galleries have also acquired by purchase from the Magdalen College Fund J. M. W. Turner's water-colour drawing of Tintern Abbey, the "gem" of the Moore and Miller collection, and from Mr. C. W. Dyson Perrins sixteen early woodcuts and engravings of great value.

A paper recently read by Mr. W. H. Levy before the Physical Society dealt with the elastic stability of structures composed of members under compression, and treats problems relating to the strength of such a construction as a beam under end thrusts and supported at intermediate points. The investigation shows that failure does not necessarily occur when one of the bays is of Euler's lowest critical length. In this instance, however, the two equations of three moments involving this bay take an indeterminate form and must be replaced by two other equations which can easily be derived. The structure will not fail, in general, through the bending moments becoming excessive, even if several of the bays are of Euler's critical length, provided at least one bay is not of that length.

It appeared, by the report of the Water Examination Committee, presented at last Friday's meeting of the Metropolitan Water Board, that of the filtered samples of water collected from the East London (Lea) supply during the month of January the percentage which could be described as "first class" fell to 13.2. Mr. Henry Ward asked if this condition was not dangerous to health. According to a report of the chief engineer there was a flood at the Lea Bridge works, with the result that outside water found its way into the filtered water culverts. The combination of conditions was phenomenal, and might not recur for many years, and it would be impossible to prevent such an occurrence unless at enormous cost, as it would practically involve the reconstruction of the filter beds and their adjacent works. Sir George Elliott said the cost was estimated at something like ten millions, and the chief engineer had stated that there had not been such an occurrence for nearly forty years. There had been no ill-effects.

PARLIAMENTARY NOTES.

AIR-RAID SHELTERS.—Sir G. Cave, Home Secretary, replying to Mr. Gilbert last Thursday, said the following were the names of the members of the Advisory Committee who advised the police authorities as regards the safety of air-raid shelters in the London area:—Sir A. Stenning, F.R.I.B.A., past president of the Surveyors' Institution (chairman), Mr. E. C. P. Monson, F.R.I.B.A., F.S.I., Mr. Fitzroy Doll, F.R.I.B.A., F.S.I., Mr. Dendy Watney, F.S.I., Mr. Horace Cheston, F.R.I.B.A., F.S.I., Mr. Percy Monckton, F.R.I.B.A., F.S.I., Brigadier General F. Hornblow, C.B., Major F. G. P. Gode, D.S.O., R.E., and Lieutenant W. P. H. Roe, R.E. The Commissioner also had the assistance of an officer of the Royal Engineers invalided from France, who had had exceptional experience in the construction of dug-outs and in the protection of buildings against shell-fire. The Commissioner had been in correspondence with Mr. W. E. Riley, F.R.I.B.A., the superintending architect of the London County Council.

Mr. Richard Hall, architect, Masonic Chambers, Bangor, is preparing the site plan for the erection of a science department in connection with the University College of North Wales.

The West Riding of Yorks Finance Committee have recommended increases in the salaries of a large number of officials in the employ of the County Council, including Mr. F. G. Carpenter, surveyor, from £700 to £800; Mr. J. Stuart, education architect, from £450 to £500; Mr. T. V. Steele, land agent, from £350 to £450; and Mr. L. J. Newton, quantity surveyor, from £350 to £400.

Sir William Schlich, F.R.S., Professor of Forestry in Oxford University, has received £500 from a donor who wishes to remain anonymous, to be added to the Fund for the permanent endowment of the Professorship of Forestry. With the sums already contributed, the capital of the fund now amounts to over £6,300, and the annual income from all sources, to about £300 a year, making about half of what is required.

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TENDERS.

*Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender: it adds to the value of the information.

CHEADLE.—For work in connection with road improvements in Wilmslow Road, for the Cheadle and Gatley Urban District Council:—
 Alecock, J., and Sons, Cheadle .. £49 12 3
 Accepted.

CLONES.—For repairs to fourteen cottages for the Clones No. 1 Rural District Council:—
 George Duffy, Ballybay, accepted.

DORCHESTER.—For new offices at the Boys' Home, for the Dorset Education Committee:—
 Green, C. H., Blandford .. £346 14 4
 Accepted.

KILLARNEY.—For carrying out works at the Workhouse, for the guardians:—
 Messrs. Gullivan £294 18 0
 Fleming, Jas. J. 225 2 11
 Accepted.

LEEDS.—For cleaning down, painting, etc., at various police stations in the city, for the corporation:—

Accepted tenders:—(Contract No. 3,115), Millgate Street and Crossgates, Pitts and Payne, 191, Woodhouse Lane, Leeds, £35 6s. 2d.; (3,116), Marsh Lane, Pitts and Payne, £55 19s. 6d.; (3,117), York Road, East Street and Hunslet, H. Whitaker, 38, Malvern Road, Leeds, £46 15s. 6d.; (3,118), Dewsbury Road, Holbeck and Beeston, T. W. Fisher, Tempest Road, Beeston Hill, Leeds, £65 8s. 8d.; (3,119), Meadow Lane and Dogs' Home, H. Whitaker, £33 2s. 3d.; (3,120), Sheepshear, Headingley and Woodhouse, and place of detention, 15, Clarendon Road, Carter and Frankland, Hyde Park, Leeds, £52; (3,123), Kirkstall Road, New Wortley, Kirkstall, Pitts and Payne, £43 11s. 3d.; (3,124) Bridewell and Gaoler's House, Town Hall, Roylance and Horsman, Raglan Road, Leeds, £57.

LONDON.—For stone stairways of City and Queen's Mansions, Metropolitan Cattle Market, for the City Corporation:—

Bradford, E., and Co. £446 18 0
 Stuart's Granolithic Co. 383 1 4
 Lidstone, N., and Sons* 317 10 0
 Accepted.

LONDON, S.E.—For supply of 500 tons of Portland cement, for the Southwark Borough Council:—
 Associated Portland Cement Manufacturers, Ltd., £2 11s. per ton (accepted).

LONDON, S.E.—For roof repairs and other works at the Southwark Military Hospital, Pulwich Grove, S.E., for the Guardians of Southwark Union, Mr. A. Saxon Snell, F.R.I.B.A., 9, Bentinck Street, Manchester Square, W.1, architect:—

Bishop, H. T., Ltd., 57, Rosebery Road, Brixton Hill, S.W.2 .. 4,197 0 0
 King, W., and Son, Ltd., 3, Vauxhall Bridge Road, Westminster, S.W. .. 3,556 0 0
 Whiter, J. E., 89, Newington Butts, S.E.1 .. 3,260 0 0
 Inns, A. H., 7, Devonshire Square, Bishopsgate, E.C.2 .. 3,177 0 0
 Chappell, W., 243, Elgin Avenue, Maida Vale, W.* .. 3,116 17 0
 Accepted.

NEWRY.—For new drainage system of the Newry Mineral Water Co., in accordance with plans and

specification prepared by P. J. Neary, M.R.I.A.I.,

Newry:—

Hughes, James	£207 15 0
Lavery, M.	202 0 0
Fleming, J.	198 10 0
Savage, H.*	159 19 0

*Accepted.

SALFORD.—For scraping, cleaning, and painting Crownwell Bridge, for the town council:—
 Horsfield, J. and E., Manchester £682 0 0
 Recommended for acceptance.

LIST OF TENDERS OPEN.

BUILDINGS.

April 2.—Alterations to residence and outbuildings known as "The Hills," Camcock, and adapting them for an infectious diseases hospital.—For the Cannock Urban District Council.—Plans, conditions, and specification, and form of tender, from R. Blanchard, Engineer and Surveyor, Council Offices, Cannock, on payment of £2, which will be returned on receipt of bona fide tender. Sealed tenders to the Chairman of the Hospital Committee, Council Offices, Cannock.

ENGINEERING.

March 25.—Contracts in connection with gasworks extensions at Burton-upon-Trent.—For the Gas and Electricity Committee.—J. B. Chapman, Town Clerk, Burton-upon-Trent.

March 27.—Laying stoneware and iron pipes, building filter bed, etc., at the pumping station at Old Mill, Dartmouth.—For the Dartmouth Town Council.—Particulars from Borough Surveyor; tenders to Town Clerk, Church Close, Dartmouth.

March 30.—The Acting British Consul at Santiago reports that a decree has been issued calling for tenders for the improvement of the port of Antofagasta (Chile). By the terms of this decree the amount to be expended on this work must not exceed £1,700,000. Details may be obtained from the Port Commission Offices in Santiago, and copies are expected to be received shortly at the offices of the Chilean Legation in London, 22, Grosvenor Square, W.1. Tenders will be received up to 3 p.m. on March 30 by the Minister of Finance, Santiago.

LIGHTING.

March 29.—Lighting the public streets and roads of Larne urban district, by means of gas or electricity (one or three years from August 1).—For the Larne Urban District Council.—Tender to W. G. Younge, Clerk, Town Hall, Larne.

SANITARY.

March 25.—House scavenging, emptying cesspools, etc., in the parish of Crofton.—For the Fareham Rural District Council.—J. F. Whitear, Deputy Inspector and Sanitary Surveyor, Southampton Road, Fareham.

Extensive additions have been made to the Convent of the Holy Faith, Clontarf, and a new sanitary scheme laid down. Mr. Louis Monks, Kingstown, was the contractor. The work was carried out in accordance with designs and under the supervision of Mr. P. J. Munden, M.S.A., 5, Trinity Street, Dublin.

Mr. H. G. Chancellor, M.P., speaking at the Huddersfield Liberal reconstruction meeting on "Home and Health," said his suggestion was that land should be acquired by councils or builders at registered valuations, and that the master builders who had closed down and lost their all and risked life in fighting for the country should be employed upon the work of housing for the nation.

TO CORRESPONDENTS.

We do not hold ourselves responsible for the opinions of our correspondents. All communications should be drawn up as briefly as possible, as there are many claimants upon the space allotted to correspondents.

It is particularly requested that all drawings and all communications respecting illustrations or literary matter, books for review, etc., should be addressed to the Editor of the BUILDING NEWS, Effingham House, 1, Arundel Street, Strand, W.C.2, and not to members of the staff by name. Delay is not infrequently otherwise caused. All drawings and other communications are sent at contributors' risks, and the Editor will not undertake to pay for, or be liable for, unsought contributions.

When favouring us with drawings or photographs, architects are asked kindly to state how long the building has been erected. It does neither them nor us much good to illustrate buildings which have been some time executed, except under special circumstances.

RECEIVED.—P. J.—L. F. Co., Ltd.—L. B. and Sons, Ltd.—H. T. M. W.—Col. J.—W. H. S. and Sons—P. F. H.—Racontour—M. M. S. A.

ODIN.—No.

W. AND F.—Thanks; yes.

E. H.—Because we go to press on Tuesday now, and publish at 2 a.m. on Wednesday morning, and not on Fridays as before the war. You should get your copy on Wednesdays; if unable, send us a subscription direct to the office, 6s. 6d. quarterly, 13s. half-yearly, or £1 6s. annually. Then we pay the postage and you get it delivered to you early and promptly.

Mr. John Quigley, Lisburn Road, Belfast, has been elected president of the Association of Master Painters in Ireland. Mr. Quigley is chairman of the Belfast centre of the Association.

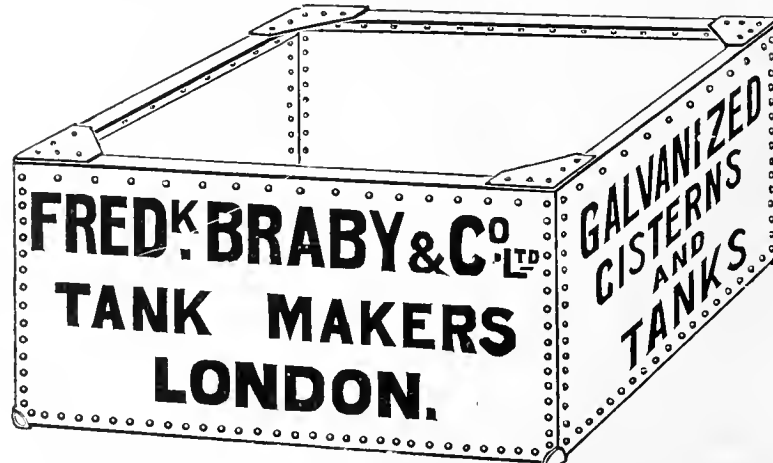
The Milford (Donegal) District Council invite applications from duly qualified civil engineers in connection with designing an extension of Rathmullen Waterworks, estimated to cost £2,000.

At a Congregation held at Cambridge last Friday the degree of Master of Arts was conferred on Professor Arthur Beresford Pite, F.R.I.B.A., Professor of Architecture at the Royal College of Art.

Mr. W. H. F. Maddison, aged fifty-three, of Darlington, joint managing director of Ord and Maddison, agricultural engineers and limestone quarry owners, has left net personality £15,003, gross £16,568.

The Cork Industrial Development Association have had some correspondence in reference to the proposal to interest capitalists in a Portland cement manufactory in Cork, and the secretary has been authorised to prepare and publish a pamphlet showing the possibilities that exist for the successful establishment of such a factory.

From a White Paper issued on the 4th inst. it appears that a sum of £189,400 will be required for the year ending March 31, 1919, for the expenditure in respect to public buildings in Ireland, and also for the maintenance of certain public parks and public works, as well as for the maintenance of drainage works on the River Shannon. The sum is a net increase of £19,740 on that for the year coming to a close.



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Strand, W.C.2

OUR ILLUSTRATIONS.

The Palace of the Campanile, Venice, from a drawing by Mr. C. Maresco Pearce. (Exhibition of the New English Art Club, 1918.)
Col. W. Dalrymple's House, Westcliff, Johannesburg, South Africa. Elevations and plans. Mr. Herbert Baker, F.R.I.B.A., Architect.
Details of a Drawing-room after the Adam Style. Designed by Miss M. H. Hopkins. Executed by Messrs. Lewis Berger and Sons, Ltd.

Currente Calamo.

We give elsewhere the details of the Government scheme for helping local authorities to build houses. The main provision is that the State will relieve the municipality of 75 per cent. of the "estimated annual deficit." The ratepayers, who are to find the other 25 per cent., will probably ask why there should be a deficit, and why the taxpayers and ratepayers are to subsidise one class at the expense of all others. The artisan, whether he is taxed directly or indirectly through his rent, will find he has to pay more for his house than if it had been created by the ordinary builder, whose day, Mr. Hayes Fisher says, "is over," and will get neither help nor work from the Government. It will be found presently that it is beyond the power of the local authorities alone to build with sufficient rapidity to overtake the shortage of dwellings, and we are going to have one more muddle added to the many for which this Government has become notorious.

It is a little difficult to reconcile the aims of the new Curfew closing order with those of the "Daylight Saving" regulations. The only thing for quiet-going people to do seems to be to retire to bed earlier and get up later! Possibly the super-patriot will go to bed at 8 p.m.—if the light does not keep him awake—and lie on in the morning till he can do without breakfast. The average patriot may sit it out till 10 p.m. and rise at 8; while the amiable Pacifist will sit up all night by way of another protest against anything likely to help us win the war. But, seriously, the new regulations will have effects which will disturb the relations between gas and electric light undertakings and their customers to a degree which possibly has not suggested itself to the curfew-closers. In our own modest *menage* only one coal fire has been going all the winter. The cooking, bath-heating, and bedroom-warming is done by gas by means of stoves, etc., hired from the gas company. The lighting is electric—we wish all the heating was, too, for it is the only supply that has not failed or given trouble! As we do not see the reasonableness of paying the gas company full hire charges for limited hours of use of its stoves, our

present disposition is to clear them all out and light up more coal fires—a course which may not improbably suggest itself to many others, and scarcely help along the end aimed at by our well-meaning but not clear-sighted rulers and governors. Moreover, as with paper-saving, the conscientious consumer who has done his best in the past to limit his consumption is going to be penalised for the benefit of the reckless who have burnt all the coal and gas they could get. If a man last summer used ten shillings-worth of light by observing strict economy in passages, half-used rooms, and the like, he will be docked still further. If he burnt ten pounds' worth, he will only have to shut off a burner or two, and he may still waste otherwise at his own sweet will!

With the revolution—or, as it is preferred to call it, "constitutional development"—during 1917 in the administrative organisation of the British Government it is not our province to deal in any notice in these columns of "The War Cabinet Report for the Year 1917," which has been presented to Parliament, and which can be had through any bookseller for a shilling and at all the Government Stationery Offices in the United Kingdom. Readers of all political opinions will, we think, agree that the issue is not unwelcome, and that the new departure might well be followed in future years, even if, as now, in parts the Report is of the nature of explanations of failure. It is perfectly true, however—apart from the war, as we are told in the introduction on page xv., that extraordinary changes have been wrought in the structure of society. Not only is the vast majority of the people now working directly or indirectly on public service, but the State has taken the supreme direction and control of almost everything, and in some cases to an extent that ten years ago would have been regarded as the wildest dream of the Socialist. That in some matters failure has resulted is evident. That it would have been so—probably in a greater degree after a "Socialist Revolution"—violent or peaceable, is probable. The great change—made under most urgent circumstances—has necessarily been of the nature of an experiment, but it is one that, if it succeeds, will rank hereafter as the greatest of the milestones

along the long march of the English people to ordered freedom, economical as well as political. Of the probabilities of such a desirable "development" the Report may afford indications which will be interpreted, doubtless, more or less favourably by readers of different opinions, which it is not our business either to anticipate or to influence, but, rather, to suggest that the facts tabulated may be useful whatever is going to happen—whether, as some believe, the millennium is coming, or we are going to drift back into industrial anarchy the fruit of unscrupulous monopoly on the one hand, and the short-sighted restriction of output advocated and practised by the workers on the other.

One thing is good, anyhow, and that is the restoration, at any rate in part, of the first industry in the realm to its rightful position. Throughout the years of the lives of most of us Agriculture—the real staff of life and all national efficiency—has been degraded to the level of a minor calling, and we have seen the villages depopulated and the land labour-starved; the peasants meanwhile being forced to crowd into the towns to earn the bread we have become dependent on the foreign grower for, and to herd together in squalid homes, and seek distraction from the monotony of their lives in vulgar dissipation, or frivolous "recreation." It is something to have proved that Britain can feed herself without the aid of the foreigner, and can afford to pay and adequately and healthily house the men that fulfil her first need. It is no less gratifying to feel that with the land thus wholesomely and profitably utilised, the other great industries will benefit directly and indirectly; that the villages will once again become the centres of peaceful and profitable labour, and that from the ranks of those engaged therein, according to their aptitudes, we may obtain vigorous and brainy recruits for service in the arts and sciences. For the rest, let us see to it that the pendulum does not swing too far the other way when peace comes. True national co-operation must still rely on and develop the individual energies of her people, which in the past have made England what she is; but it will fail us if the Democracy falls back on the methods of Bureaucracy, by whatever fine name we may call the new "constitutional development."

Our emergency legislation, which was made necessary by the war, has placed the Courts and the Judges in a peculiar and unusual position. These Acts were boldly and briefly drawn up, and they were hurriedly passed. They were primarily intended to modify the strict letter of the law, so that, in suitable circumstances, those who felt the pressure of these terrible times might be relieved from unfair legal liabilities. The Act of 1916 gave every Court—thus including County Courts—the power “in its absolute discretion, after considering all the circumstances of the case and the position of the parties,” to adjudicate upon the liabilities of the lessee under the lease, and also the liabilities of the tenant for arrears of rent and past breaches of covenant. The full meaning of this clause came before the High Court on appeal from the Bow County Court, in the recent important case of “*Revill v. Bethell*.” The applicant was a dentist who had been called up to the Army. He was the assignee of a lease, expiring in 1922, of premises in East Ham at £100 a year rent, and had applied to the County Court judge for leave to determine his tenancy as from June, 1917, the respondent being the lessor. The judge made an order to determine the lease as from March, 1917, if rent was paid up to that quarter, and he further ordered that no action should be brought by or against any one in respect of breaches of covenants. From this the respondent, the lessor, now appealed to the High Court, where the matter was fully argued out before Avory and Salter, J.J. The lessor’s main ground was that the County Court judge had no jurisdiction under the Emergency Act, 1916, to make the order terminating the lease, relieving from arrears of rent, and barring actions as to past breaches of covenant. The few cases decided upon the effect of the Statute were gone into and considered. But the two judges agreed in taking a broad view of the Act, its aim and purpose. They held that the clause gave the County Court judge power, in his absolute discretion, to relieve the applicant-soldier, as assignee of the lease, from his arrears of rent and his liabilities for breaches of covenant, as well as to determine the lease itself. So they confirmed his order and dismissed the lessor’s appeal. But the case will very likely be taken up to the Court of Appeal, where more strict and technical legal views may possibly prevail.

Mr. Thomas H. Mawson, the expert in town-planning, has just returned from Salonika, where he has been acting, at M. Venizelos’s request, as senior member of the Commission appointed by the Greek Government to work out the scheme for rebuilding the city. The Commission, which is composed of Greek and French architects and engineers, has completed its plans for taking advantage of the biggest opportunity for town-planning since the San Francisco fire. The central area of about one and a half miles long and three-quarters of a mile wide, covering two-thirds of the city, was completely

gutted, and Mr. Mawson was instructed by M. Venizelos to regard the whole area as if it were vacant land, and to prepare plans so as to secure the utmost economic and æsthetic advantages to the city, which will be in the future one of the greatest of shipping and industrial centres. The plans provide for a future population of 320,000. It will take ten years to complete the scheme. The site is an ideal one, rising from the water’s edge up to the city walls and citadel on the hills behind the town. The scheme includes the reorganisation and extension of the docks, the provision of two new railway stations, and an underground electric line. There will be separate roads for fast motor traffic and for slow traffic. There will be a big central building—Government and municipal centre, law courts, and a generous provision of parks and public gardens. There are to be two wide areas of park land running through the city from the sea to the hills and dividing Salonika into three business and residential areas. These wedges of park are continued as belts of forest beyond the city walls, and will be laid out on ground previously occupied by old Turkish cemeteries. In one will be built a university, chiefly for scientific and industrial teaching. The style of the architecture will be partly Byzantine—the French are planning a series of bazaars in the Eastern manner—while the business and official buildings will be classical Greek. At one end of the city there will be an aviation ground, and at Mecra Point, now the site of the British base hospital, the holiday resort of the place, a recreational centre is planned, including a casino, yacht club, and hotels. The Government has decided to issue building permits to syndicates, and it is expected that British concerns will take part in this vast enterprise of creating one of the most beautiful seaports in the world.

THE LOCAL GOVERNMENT BOARD AND R.I.B.A. COTTAGE COMPETITION.

AREA OF THE HOME COUNTIES.

For some weeks the awards of the professional assessors have been waiting confirmation by the Local Government Board, the representative committee of which, after some delay, co-opted a few ladies to advise on certain details of domestic concern. Previously, an eminent builder of exceptional experience was also consulted, so that every precaution appears to have been taken to insure full information before the final decisions were settled last Friday night at the Royal Institute of British Architects. Some 850 drawings are now on public view in the Galleries at No. 9, Conduit Street, Hanover Square, where, in the course of a week or two, all the prize plans from the various provincial areas will also be exhibited after the unsuccessful schemes now to be seen have been withdrawn.

Certainly, nothing applicably new or picturesque is to be found in the designs, a considerable number of which are very indifferent or futile proposals. In this respect the assembly of plans can only be described as disappointing. Of course, pre-war prices can never prevail again in our time, and the greater costs on labour and materials have to be accepted. No

surprise therefore need be expressed at the mediocrity displayed in the aggregate by the competitors taking part in this vast assembly of drawings. Very few of the plans can be said to better the model plans already published by the Local Government Board and Scotch Building Authorities, but besides this comparison it is only fair and pertinent to add these model plans, whatever their defects or relative merits, are shown without elevations; whereas the best contrivers of such plans commonly fail when they attempt to carry their work into elevational completion.

CLASS “A” DESIGNS.

The winning design (173), under Class “A” in the present competition for the cottage group of housing for a living-room, scullery, and three bedrooms, is by Mr. Courtenay M. Crickmer, F.R.I.B.A., of Lincoln’s Inn Fields. His scheme is exceedingly simple and very compact, depending externally on hipped roofs of flat-tish pitch covered with slates. The windows have wood casements opening at the top. The stairs are in straight flights without winders, but they depend on roof skylights. The living rooms are spacious—14 ft. and more by 13 ft. 9 in. The stairs rise out of a small lobby facing front doors. The larders are placed in corners of sculleries. Space for prams and cycles is given. The coal-place and w.c. open off a short isolating passage. The baths are on the first floor. Sleeping rooms are adequate—16 ft. by 10 ft., 12 ft. by 6 ft. 6 in. (which is not a good proportion), and 10 ft. by 7 ft. 4½ in. These are reached off a square landing without loss of space. The top rooms have flat ceilings, the pitch of both floors being 8 ft. These cottages cube 10,330, 10,375, and 10,476. The end cottages project in front, and the central pair set out behind. The whole arrangement is self-contained. The walls are 11 in., hollow built in brick; and as an alternative concrete slabs are proposed. The door-penets have slate slab coverings. The design is appropriate and restrained in treatment. The prize is £100.

The second or £50 prize is given to No. 74 by Mr. F. C. W. Barrett, of Apple Tree Yard, S.W., who sends a hipped and picturesque scheme, the rear side being more attractive than the front. Tiled roofs and hollow walls with economic cubing, viz., 9,638, 9,550 and the long houses each 10,065. The stairs open off the living-room in the middle houses, and these rooms are ample in size; the sculleries figure 11 ft. by 7 ft. 9 in., and have bath by side of sink. The stairs have direct vertical light, save in intermediate cottages, and all have winders. The bath is cramped in some cases between the fireplace and copper. The end houses are most excellent.

Mr. C. Wontner Smith, F.R.I.B.A., of Gray’s Inn, has distinguished himself by the delightful drawings he submitted in all four classes (No. 200): but though honourable mention is accorded him in “A,” “B,” and “D,” he also secures a £50 in “C.” We agree with the assessors, notwithstanding the attractive character of his designs “A,” “B,” and “D,” which seem better adapted for erection on the estate of a country squire. The class of cottage for housing industrials or working men on an economic basis of the rent paid and outgoings demands a less fanciful handling than that displayed by these pretty tenements, which on their merits attract attention and put their plainer neighbours out of countenance by their “Oxford type” of treatment architecturally. Mr. Smith’s two end houses project with twin gables, and all have mullioned stone windows fitted with iron casements. The rooms are capacious; good sculleries, nice baths, and

earth-closets. These are worked from the front of seat, which is awkward and most unusual.

Honourable mention is also given to No. 116 by Mr. C. O. Nelson, of Ruislip, who relies on rather flatly roofed gables at the end of his facade for skyline. The hipped projection in the centre of his front is too slight to justify the expense, and the general effect seems commonplace in comparison with the last-named design. The staircases are top-lighted and have winders. The sculleries are amply big and have baths, but one 14 ft. 6 ins. by only 6 ft. 7 ins. cannot be commended. In the middle house the bath set end-on is put in a screened dark lobby too narrow for comfort. The sliding doors claimed to be a speciality to the coal-places can only slide in front of either the larder or w.c. doorways. An angle-set bay to the end houses living-room is a doubtful expedient for this type of work.

Another honourable mention is accorded to No. 334 by Messrs. G. W. Wilson, John Newton, and G. Round, of Mitre Court, E.C. This design has economic and spacious bedrooms, but the third room in their end houses has no fireplace. The food places are strictly on ration scale, but the sculleries are about 10 ft. by 9 ft. 6 in., and living-room 16 ft. by 12 ft. The architectural effect is suitable, and the concrete-built hollow walls are rough-casted and set on a brick plinth. The separate bathroom in the long intermediate cottages is placed in front of the house alongside of the w.c., facing the sun in a prominent way.

CLASS "B" DESIGNS.

The first prize design in Class "B" is No. 25, by Mr. Alfred Cox, of Allenby Road, Forest Hill, with a plain broadly-handled scheme for the parlour-planned dwellings. He has hipped roofs to ends of his front and pedimented wooden dormers set in tall tiled slope, rising above purple brick-faced walling and red dressings to openings of front. The cubic contents for the end semi-detached houses are 11,835; terrace ditto, 11,520; and the wide-frontage houses, 11,340. The parlour in central house is at the rear where there is a big projecting wing. The pitch is 8 ft. to both floors, and the roofs are acute in angle, the rooms being partly sloped. Staircases all vertically lit, but in the middle house the window is too small, and very high up. No winders. The food cupboards are much too inadequate for parlour people, and open out of living-rooms. Sculleries from 12 ft. 7 in. to 10 ft. by 8 ft. have baths, but the careful setting out of the mangle, sink and cooker, show that they are none too big. The w.c.'s are off an open porch. The treatment, if plain, is in accordance with common sense, but the middle houses have no pram or cycle space, unless the ugly narrow passage is so employed.

Mr. Courtenay M. Crickmer, F.R.I.B.A. (173) comes in successfully for the second prize of £50 in the "B" contest with a similarly handled proposal to his first prize design in Class "A." Like to that one, he is here distinguished for compactness and sensible arrangement. Space under the stair is given for perambulators excepting in the end tenements, where he puts the bathroom as an alternative on the ground floor cheek by jowl with the front door, and calls the bath accommodation, otherwise allowable on the first floor, a "boxroom." The sculleries seem rather cramped, and there is no coal-place to the middle residence, so far as we could see. The living-rooms measure 17 ft. 6 ins. by 12 ft., 15 ft. by 11 ft. 6 ins., and 15 ft. 7 ins. by 12 ft.

His parlours figure 10 ft. by 10 ft., and 9 ft. 6 ins. square.

Honourable mention is accorded to No. 59 by Mr. John C. S. Soutar, of "Wyldes," Hampstead. There seems to be a superabundance of roof, and the third bedroom is on the second floor of the middle block. A great feature is made of semicircular arched portals, the central one being common to two houses. Halls form a conspicuous speciality, and prams are to stand there promiscuously. The rooms are nicely arranged, and the stairs have direct lighting save in the middle house. The w.c. for the end ones shares a dormer awkwardly with the stairs, and it is set too much inside the building. The bathrooms are on the first floor. The food cubicles open into the external walls for air and light. A through way passage intervenes between the terraced houses and central block. Architecturally this scheme is ordinary and rather broken in frontage lines.

Mr. Wontner Smith, F.R.I.B.A. (No. 200) scores another honourable mention with a mansard-roofed group of cottages marked by almost pent-shaped set-offs of wall tiling, quaint and crisp in treatment, beautifully delineated and very attractive. The style is too ornate for the purpose, which is a fatal fault, good as his work is otherwise, though somewhat over-wrought and ambitious. The cramped lobbies spoil the entrances, though the lay-out is clever and original, with good rooms and perhaps dark staircases in some cases.

No. 334 by Messrs. G. W. Wilson, John Newton, and Round, already mentioned in Class "A," take honourable mention in Class "B" for No. 334. Their second scheme resembles the first-named. The washhouse and bathroom are combined, a distinct scullery being afforded in the end and in their terraced houses. The parlours are all in front—11 ft. by 9 ft. and 10 ft. by 9 ft. The darkness of the staircases, save for roof lights, occurs as likely, and we do not like the wasteful passages on first floor of end dwellings. All rooms have fireplaces, and are of capital proportions. The w.c. close to the entrances to parlours in four houses seems an unqualified error, and the absence of perambulator room is to be noted as a shortcoming.

Mr. F. C. W. Barrett, No. 74, turns up deservedly again for the honourable mention. He wins the second prize for Class "A." This plan for "B" group has an outside building for the coal-places and w.c.'s to central block and under lean-to adjuncts in the other tenements. Every staircase is vertically illuminated. The parlours in the 19 ft. fronted houses are opened out of the front-door vestibule, and so are too much like a passage way, as in Mr. Soutar's plan where the prams and cycles may be cluttered. The parlours in the right and left extremities, have their living-rooms cut off awkwardly by an intervening little box lobby to their front doors. The stairs rise out of the keeping rooms. The baths are conveniently located in sculleries. This plan is quite ingenious, and the elevations are effective, but not so well represented as the design deserves. The honourable mentions presumably are all equal in value.

CLASS "C" DESIGNS.

The first prize of £100 for this type is secured by Mr. Courtenay M. Crickmer, F.R.I.B.A. (173). Lean-to capped dormers relieve the slope of his hipped roof, set out at the angle of 45 deg., and so saving cubic contents. The rear-side of the plan projects in the centre to provide scullery space, also coal bunkers, and w.c.'s. The

baths are placed on first floor. The food closets in these middle tenements open off the front entry lobbies facing west and setting sun. On the whole, this is a most excellent plan. The boiler is situate in an open-placed lobby in the intermediate or terraced portion of the group and end houses, but none too ample elbow room is afforded. Actually, it is preferable to put coppers under sheltered but open-pent adjuncts, so as to afford the washer freedom, and save stopping and steam intruding in the limited house-room. If the boiler must be inside, Mr. Crickmer has fairly well solved one problem, though the adjacent bath given by some of the places does allow of ready rinsing of the washing before wringing. There are two bedrooms, but some are too like attics in their ceilings. Staircases are straight with good landings. In central dwellings top light is depended on, and in these instances pram room is provided. The exterior, on the lines of his other schemes before mentioned, is adapted to the purpose in a common-sense manner, with due regard to cost. Mr. Crickmer scores well, altogether, by taking two first and one second prize, viz., £250.

The second prize of £50 goes to No. 200, by Mr. Wontner Smith, F.R.I.B.A. It is a telling architectural proposal, with a tall, acutely-pitched roof, giving the skyline character. The rooms have a height of 8 ft., but in the sleeping chambers the ceilings rise with slopes somewhat unduly for air-space and ventilation. The stairways are straight and top-lit, except in middle dwellings. The parlours in the semi-detached end flanks are at the back near the sculleries, which latter are capitally contrived, set out with recessed baths next the boilers, allowing for rinsing as above advocated. The principal houses have their food cubicles on the south front side, balancing inside the keeping-rooms with the canted entrance lobbies, thus giving a recessed bay-like set-out for the windows. The intermediate lobby in front of entry to other houses separates the parlour in such a way as either to induce a show-place being made of it, or a bedroom. Rough-casted walls outside, wood panels to windows, brick mullions, and pan-tiled roofs. Outside adjuncts weather-boarded. Tall dual gables at end of facade, and the broken lay-out outline of the plan rather expensive, but the planning would be hard to beat, and also the artistic character as shown by fetching drawings.

Messrs. Wilson, Newton and Round, already favourably mentioned, take honourable mention for No. 334 in this class. Their scheme is simpler than the last-named. Straight stairs, top lit. The wash-house and bath is combined in intermediate cottages, but treated as an inner chamber off the scullery with no direct exit for steam, which is desirable; and beyond shutting off the bath as such, it would be preferable to open up the space into the one apartment. The w.c.'s are near front doors in the central houses, but in others are set outside in open lobbies. No pram space is given, and bedrooms too much in roof; however, the vertical walls are 5 ft. high and rooms 12 ft. wide, so this criticism may be nullified. The design is cottage-like and picturesque.

Honourable mention is taken by Mr. R. H. Gardner, of Leatherhead (170), who depends too much on a broken lay-out scheme and gives an almshouse effect externally. The shaped parlours with canted window are ingenious beyond the hall, where the prams get refuge under a dog-legged stairway. The larder is adroitly wedged in at the angle, with a

window in the corner. Baths come awkwardly, and boxed in at the end of a 3 ft. wide short passage as dressing space; but the baths are not too far off for rinsing washing, the boiler being in angle of scullery adjacent. This is a compact scheme, squat-looking externally, the rear side being more fetching than the front. The bedrooms are excellent and the stairs all vertical lighted.

Mr. Roland Welch, of Hendon, is also a recipient of honourable mention (326), and his scheme is individualised by making his end cottages into detached blocks connected only by arched openings with the main premises. He obtains many advantages by this contrivance, especially by way of light, of course, but adds proportionately to the outlay. His plan is excellently worked out, and the bath-rooms are upstairs. His big building in the middle has a hipped roof, but gable ends occur for the insulated tenements. The stairs in these are top lit, and he gives a workable solution to the problem.

CLASS "D" DESIGNS.

This type has been less ably contested than the others, and the opportunity for distinction is less, because of the restricted scope afforded by single story dwellings. The first prize of £50 is well deserved by Mr. John A. W. Grant, of 15, Cargill Terrace, Edinburgh (242). His space to each house, on the ground-floor, consists of three bedrooms (one being only 12 ft. by 6 ft. 9 in.), all having fireplaces, a keeping-room 15 ft. by 12 ft. 9 in., ample scullery and nice larder facing east, and separate bath-room. The w.c.'s are off open porches. This is a simple and serviceable design well thought-out in an elementary and unpretentious way, showing the advantage of reserve, and the appreciation of everyday facts often ignored.

The second prize of £30 goes to Mr. W. R. Mosley, of Hackney, for 189. This is a single cottage, with a bedroom on the ground-floor, and two upstairs. The conditions specified "mainly on one floor," but suppose the assessors considered this first-floor allowable with the bathroom over the scullery. Mr. Mosley has thought out a very economic, straightforward job with one length of stairs and side steps to side bedrooms off landing. If not top-lighted the stairs must be dark. Coals and w.c. reached from outside. Creditable elementary and well-contrived and practical is our comment.

Mr. Wontner Smith takes the only honourable mention in this class. He relies on a French chateau-like high-pitched hipped roof, but his house is a cottage in idea though ambitious. The plan is extraordinarily ingenious. One bedroom on the ground-floor, and two up a loft, pretty much justifying the roof. Ample scullery, capacious and pretty living-room, and fine larder. Cube 11,792, walls rough-casted: handled with credit a pretty, well-considered scheme worthy of a rich man's Surrey estate, though a not really costly house.

We saw no designs in either section which induced us to think that anyone had been overlooked by the judges.

"All lovers of York Minster," writes "A Yorkshireman" to the *Guardian*, "will welcome the appeal of the new Dean for more worthy fittings for the Minster. As one who has been a lover of the Minster from his boyhood, may I venture to appeal for a 'fitting' more worthy of Northern Christianity? I refer to the pulpit. The present pulpit is worthy of a second-grade auctioneer's room. Is there no lover of the county of broad acres and its famous cathedral who will give a really handsome pulpit in memory of a son who has fallen in the war?"

THE WAR MEMORIAL PLAQUE.

In the competition for designs for a memorial plaque to be presented to the next of kin of members of his Majesty's forces who have fallen in the war, the Committee announce the following awards:—£250 to "Pyramus" (Mr. E. Carter Preston, Liberty Buildings, School Lane, Liverpool), whose model is selected for reproduction. £100 to "Moole" (Mr. Charles Wheeler, 2, Justice Walk, Chelsea). £50 each to "Sculpengro" (Mr. William McMillan, 14A, Cheyne Row, Chelsea); "Weary" (Sapper G. D. MacDonald, 207290, Beaconsfield, Bucks); "Zero" (Miss A. F. Whiteside, Kensington Studios, 8, Kelso Place, S.W.). The work of the following competitors was considered worthy of honourable mention:—"Astra-Castra," "Athenian," "Bee," "Canada," "Casual," "Cross," "Desirée," "Fluvius," "Gaza," "Intrepidus," "Litigation,"

tion is surmounted by a special device, including the Royal Arms in colour, with the initials of His Majesty the King. The actual writing, designing, and the cutting of the wood block from which the scroll will be printed have been entrusted to a group of artists attached to the London County Council Central School of Arts and Crafts, under the supervision of the Principal, Mr. F. V. Burridge. The Committee have had the advantage throughout of the advice of a special committee, consisting of the Director of the Victoria and Albert Museum, the Director of the National Gallery, and the Keeper of the Department of Coins and Medals, British Museum.

It is hoped to proceed at once with the execution of the memorials. In view, however, of the large number which will have to be supplied, and of the probable scarcity both of paper and metal, it is at present uncertain at what date they will be available



THE WAR MEMORIAL PLAQUE. SELECTED DESIGN.

By MR. E. CARTER PRESTON.

"Nomen est Omen," "Oneiros," "Pink," "Red Shield," "Rex Royal," "Sun" (A), "Sun" (B), and "Wattle Blossom."

The plaque, or model, is of circular form, 5 inches in diameter, and bears an emblematic design, with the inscription, "He died for Freedom and Honour." It will be cast in gunmetal, and each copy will have inserted in the field a raised tablet enclosing the name of the person commemorated. The design represents Britannia crowning with a wreath of palm the name of the fallen hero, the British lion standing by her side on the plinth. The competition resulted in more than 800 models being submitted. The successful competitor is Mr. E. Carter Preston, of Liverpool.

In considering the scroll, the committee had in view the composition of a short sentence or two which should express in suitable wording and dignified English something of the nation's gratitude to her heroes who have fallen. The final phrasing is mainly the work of Dr. Montague James, Provost of King's College, Cambridge, and a sentence by the late Mr. Charles Keary, the historian and novelist, has been added. The inscrip-

tion for distribution; the preparation and forwarding, however, will be pushed on as rapidly as possible. An announcement will be made in due course which will give full information as to the method of distribution.

The successful artist, Mr. Edward Carter Preston, is a native of Liverpool, and has been trained both as a painter and a sculptor. He received his art education at the School of Applied Art, Liverpool University, and is closely connected with the art and designing side of the Lord Roberts Memorial Workshops. Some three or four years ago he attained prominence with his polychrome models and caricatures at an exhibition held by the Fine Arts Society in London. He has recently met with much success as a medallist, and exhibited at the Georgian Hall, in London, at the Exhibition of Medallist Art, which was later transferred to the Liverpool Museum. A number of fine medals, particularly those for the Institute of Bankers and for the Imperial Merchant Service Guild—which are to be given to the V.C. heroes of the Dardanelles exploits of the River Clyde transport—have been executed by Mr. Preston.

HOUSING OF THE WORKING CLASSES.

LOCAL GOVERNMENT BOARD CIRCULAR.

Mr. Hayes Fisher has been in communication with the Lords Commissioners of his Majesty's Treasury on the above subject, and, in regard to the financial assistance which may be granted by the State to local authorities carrying out housing schemes under Part III. of the Housing of the Working Classes Act, 1890, as soon after the conclusion of the war as funds are available, or within a reasonable period thereafter, their Lordships have laid down the following principles, namely:—

The full cost of the scheme should, in the first instance, be met out of the funds of the local authority by means of a loan to be raised by them and for a period of years, which my Lords think should not be less than seven, the necessary State assistance should be given in the form of a grant of a percentage of the loan charges sufficient to relieve the authority of 75 per cent. of the estimated annual deficit: the deficit in each case should be estimated, with due regard to the actual increase in the cost of construction in the particular locality, on the basis of the estimated annual expenditure and the estimated annual income over a period of years; the interest charge on loan moneys should be taken at the amount actually paid where loans are raised from an outside source specifically for the purpose, or at the current market rate where the money is provided from accumulated funds in the hands of the local authority. At the end of the period above referred to the property should be valued, and 75 per cent. of the excess (if any) of the amount of the loan outstanding over the then value of the property should be met by the State, either by writing off a portion of the outstanding liability (if the money was borrowed from State sources), or by the Government undertaking responsibility for the appropriate proportion of the loan charges for the remainder of its currency.

Any loans by the State for the purpose of assisted schemes would be made at the full market rate of interest current from time to time, and not at the preferential rates ordinarily allowed for housing loans, in order (1) that the whole of the State assistance may be given under one head, and (2) that local authorities may be encouraged to borrow on their own credit rather than to have recourse to State capital funds.

3. Mr. Fisher has always taken the view that in this matter there must be a partnership between the State and the local authorities, and he was not disposed to contend that as regards most local authorities the extent of the assistance which the Treasury proposed to give in accordance with the above principle was inadequate generally. He felt, however, that cases might arise, especially in agricultural areas, in which the sharing by local authorities in the contemplated deficit, even to the extent of 25 per cent., might prove a somewhat heavy burden. He accordingly represented to the Treasury that in these cases he should be empowered to allow a further proportion of the burden to be placed on the State, and made certain suggestions with this object. He is glad to be able to state that he has been sympathetically met by the Treasury in this matter. They have now stated as follows:—

My Lords are willing to agree that the Board should have discretion, in cases in which 25 per cent. of the deficit in respect of any scheme would exceed the produce of a rate of a penny in the £ on the area chargeable, to increase the grant beyond 75 per cent., subject to the condition that the amount of the deficit to be borne by the local authority shall not be reduced below the produce of a rate of a penny in the £.

4. Mr. Fisher trusts that this announcement of the terms proposed in regard to

State financial assistance will have the result of inducing local authorities generally to proceed with the preparation of housing schemes without delay.

5. In communicating their proposals for financial assistance, their Lordships expressly ask that it may be made quite clear that the precise date at which the execution of any schemes approved by the Board can be commenced must depend on circumstances which cannot at present be foreseen, and that the financial position may be such that it may be necessary to give precedence to the more urgent cases, even to the exclusion for the time being of the less urgent.

6. Mr. Fisher thinks that he ought again to emphasise the fact that it is only in the very exceptional circumstances of the national emergency that the Government are proposing to give substantial financial assistance to local authorities for the execution of housing schemes.

7. In response to the circular letter of July 23 the Board have received up to the present time returns from over 80 per cent. of local authorities under the Housing Acts. Originally it was requested that the returns should be furnished by October 15, 1917, in the case of local authorities desirous of availing themselves of any financial assistance from the State in aid of housing schemes, but the Board wish it to be understood that proposals from local authorities, even if they have not hitherto sent in returns, will be duly considered if returns are sent in without undue delay. They understand that some local authorities have not moved in the matter in the absence of any indication as to the form and extent of the State assistance, but this objection is removed by the above announcement. Although the information furnished in many of the returns is not of such a definite character as could have been desired, the Board are glad to note that in nearly 900 cases local authorities have stated that they have prepared, or are preparing or willing to prepare, schemes for the erection of houses by them, the total amounting to some 150,000 houses.

8. In these circumstances the Board think it desirable to communicate to local authorities generally some points of general application which it will be necessary to bear in mind in connection with their housing schemes. To some extent these will not apply to the local authorities in the County of London.

9. The Board will require to be furnished with the information, plans, etc., indicated in Form D. 18, and with a balance-sheet in Form D. 18a. In framing the balance-sheet it will be desirable at present to calculate the amount of the loan charges on the rate of interest now in force for loans by the Public Works Loan Commissioners in respect of housing, namely, 5½ per cent. Any necessary correction on this point, as well as in regard to the amount of the capital expenditure in connection with the scheme, can be made at a later stage. The Board recognise that, in the first instance, only an approximate estimate can be given in regard to the amount of such expenditure.

10. The scheme must be prepared in relation to a particular site which the authority have selected as being the most suitable site available for the purpose, and it should be borne in mind that in connection with schemes intended to secure Government assistance, the aim should be to provide that in ordinary circumstances not more than twelve houses (or in agricultural areas eight houses) should be placed on an acre of land wherever this is possible without materially increasing the cost of the scheme.

11. In view of the restrictions placed upon the raising of loans by local authorities during the continuance of the war, it is desirable that the local authority should endeavour to make such arrangements for the acquisition of land as will not involve the payment of the purchase money until after the war, and that any provisional agreement entered into by the authority should stipulate that the purchase money should not be required to be paid until the Board have sanctioned the borrowing thereof. In only very exceptional circumstances could the Board sanction loans for the purpose during the war, and then only

for very small amounts or for a proportion of the purchase money.

12. If it is found that, when prepared, the housing scheme fails to comply in any respect with the by-laws in force in the district in which the houses are to be built, attention should be specially drawn to the points in respect of which the by-laws are not complied with, and in order to save time a statement should be forwarded to the effect that, in the event of the plans being approved and if by an amendment of the by-laws similar schemes could be authorised to be carried out by any other body or person in future, the appropriate local authority will be prepared to make application to the Board for approval to any amending by-law which may be necessary for that purpose.

13. It will be a condition of any financial assistance given by the Government that the erection of the houses shall be commenced within two months from the date of the sanction of the Board to any loan, and that the houses shall be completed by a date fixed, not being more than twelve months from the date of sanction unless circumstances are very exceptional. Provision will, however, be made for an extension of the term where circumstances necessitate this.

14. The Board have issued a revised memorandum with respect to the provision by local authorities of houses for the working classes, including twelve designs in regard to the arrangement of the rooms, etc., in such houses. A copy of this memorandum has been, or will be, forwarded to each local authority that, so far as the Board are aware, is willing to proceed with the preparation of a housing scheme, and to any other local authority that applies for the same. Further copies may be obtained from the sources indicated on the title-page of the memorandum.

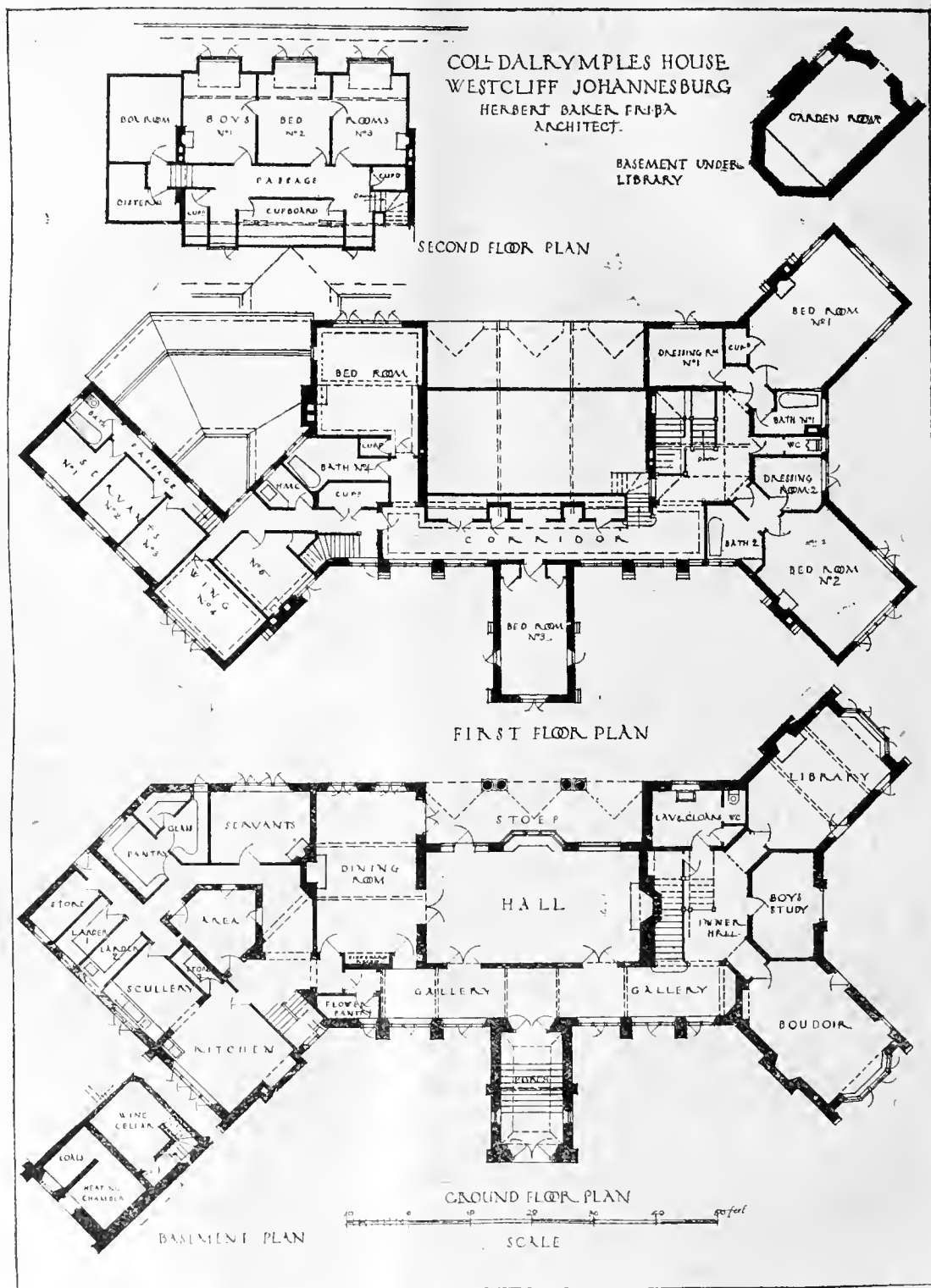
15. Mr. Fisher desires at the same time to state that by his request the Royal Institute of British Architects is conducting a competition for suitable designs for houses of the working classes, the result of which will be announced in due course. Also a committee appointed by him is now considering questions of building construction in connection with the provision of dwellings for the working classes in England and Wales, and is to report upon methods of securing economy and despatch in the provision of such dwellings. The report from this committee is expected shortly.

16. In regard to the question of materials required for the erection of buildings and the construction of works after the war, a committee appointed by the Minister of Reconstruction is engaged in a comprehensive investigation of the subject.

17. Mr. Fisher trusts that, in regard to each district in which there is an admitted need for the provision of additional houses for the working classes which the local authority are of opinion will not be met by any form of private enterprise, the local authority will at once give instructions for the preparation of a housing scheme if this has not already been done, and submit their proposals to the Board with as little delay as possible. In those cases in which schemes have already been submitted, including many for which loans were sanctioned prior to or during the early months of the war but which were not proceeded with, it will be necessary to reconsider the schemes in view of existing circumstances and in the light of the foregoing observations, particularly those in paragraph 10, and it would be of great convenience to the Board in connection with such reconsideration to receive from the local authorities concerned the Forms D. 18 and D. 18a above mentioned duly filled up, together with any amended plans and particulars that the altered circumstances require.*

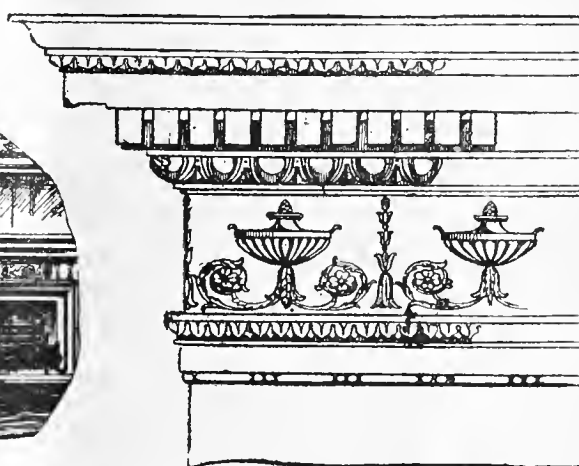
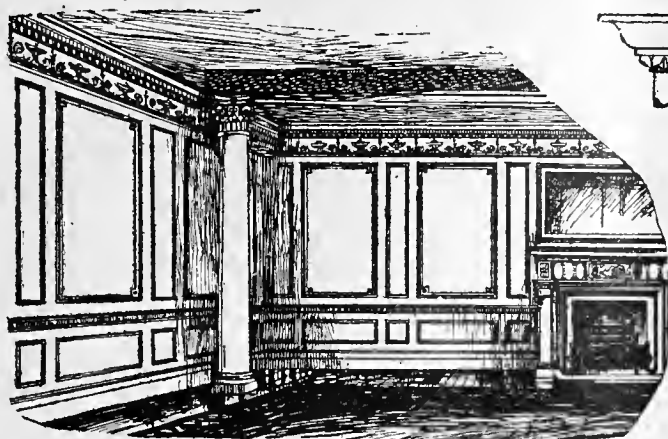
Messrs. David Gould (Glasgow) and A. G. Sinclair and S. J. Peppoe (Edinburgh), painters. Mr. A. Carrick (Musselburgh), sculptor, at present serving with the Colours, and Mr. J. B. Dunn (Edinburgh), architect, have been elected associates of the Royal Scottish Academy.

* The two forms referred to are issued with the Circular, which can be had for one penny through any bookseller, or direct from any of the Government stationery offices in the United Kingdom.

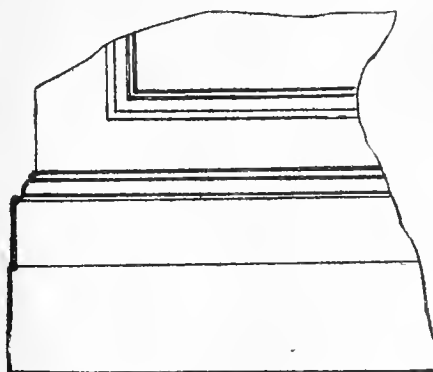
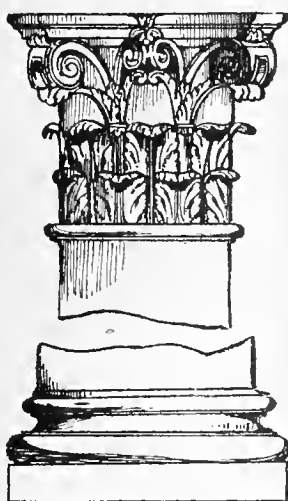
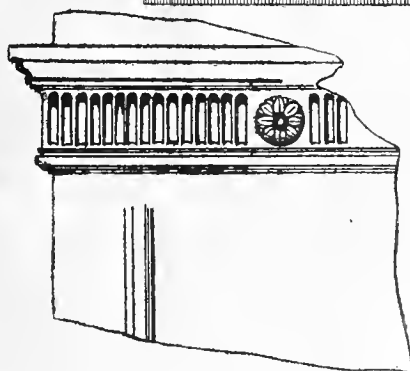
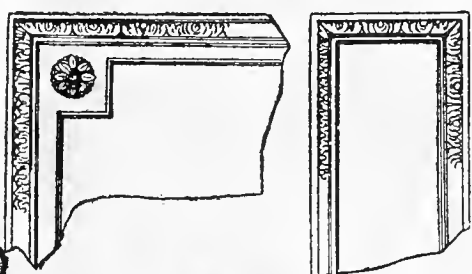
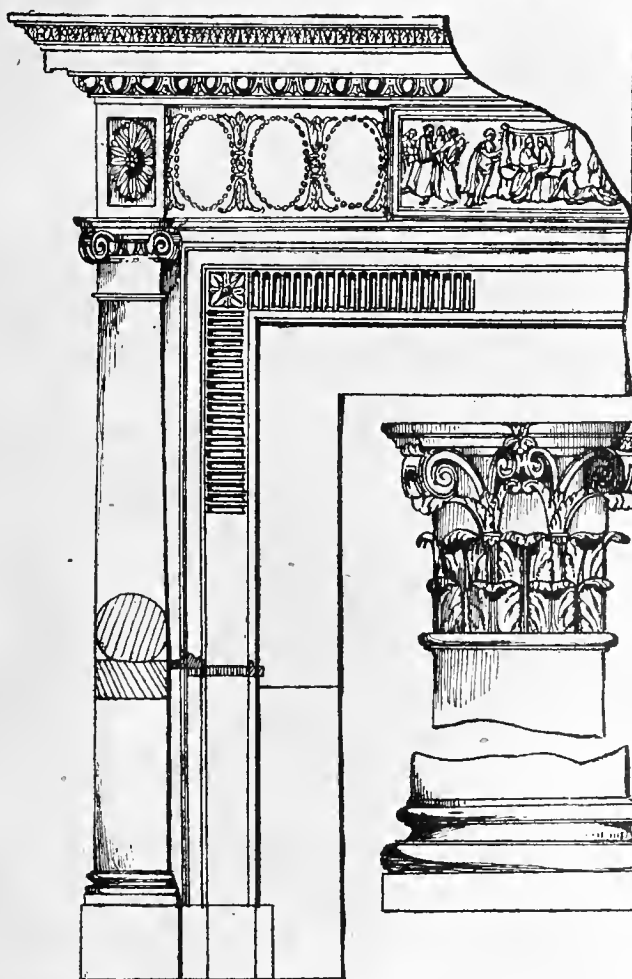


"WESTCLIFF," JOHANNESBURG. FOR COLONEL W. DALRYMPLE.
Mr. HERBERT BAKER, F.R.I.B.A., Architect.

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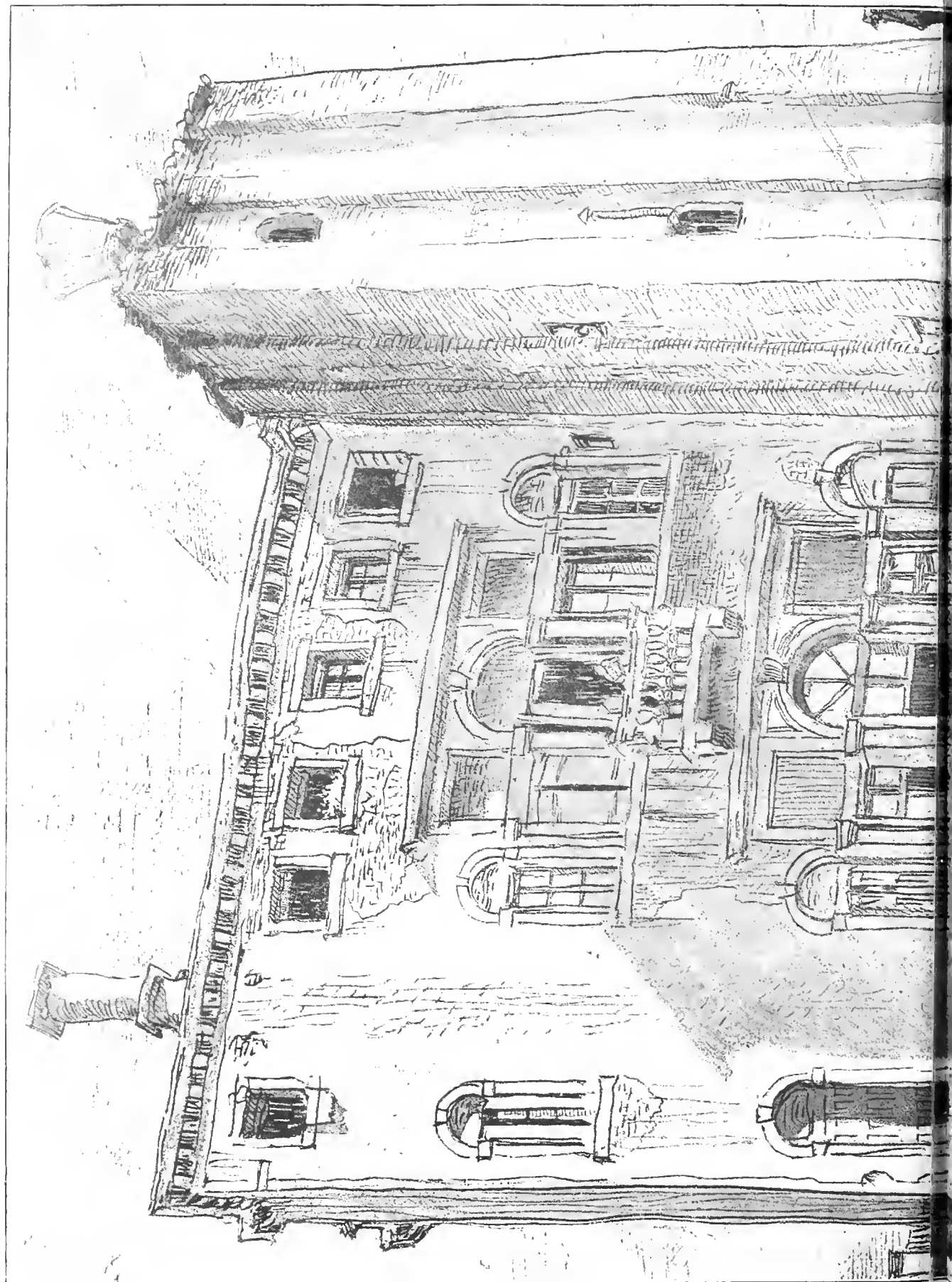
DESIGN IN ADAM'S STYLE FOR A
DRAWING-ROOM



DETAILS OF A DRAWING-ROOM, AFTER THE ADAM STYLE.

Designed by Miss M. H. HOPKINS and executed by Messrs. LEWIS BERGER & SONS, LTD.

THE BUILDING NEWS, MARCH 27, 1918.



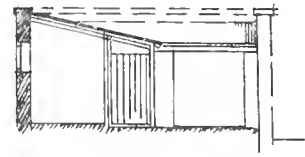


THE PALACE OF THE CAMPANILE. VENICE.

From a Drawing by Mr. C. Maresco Pearce. (Exhibition of the New English Art Club, 1912.)



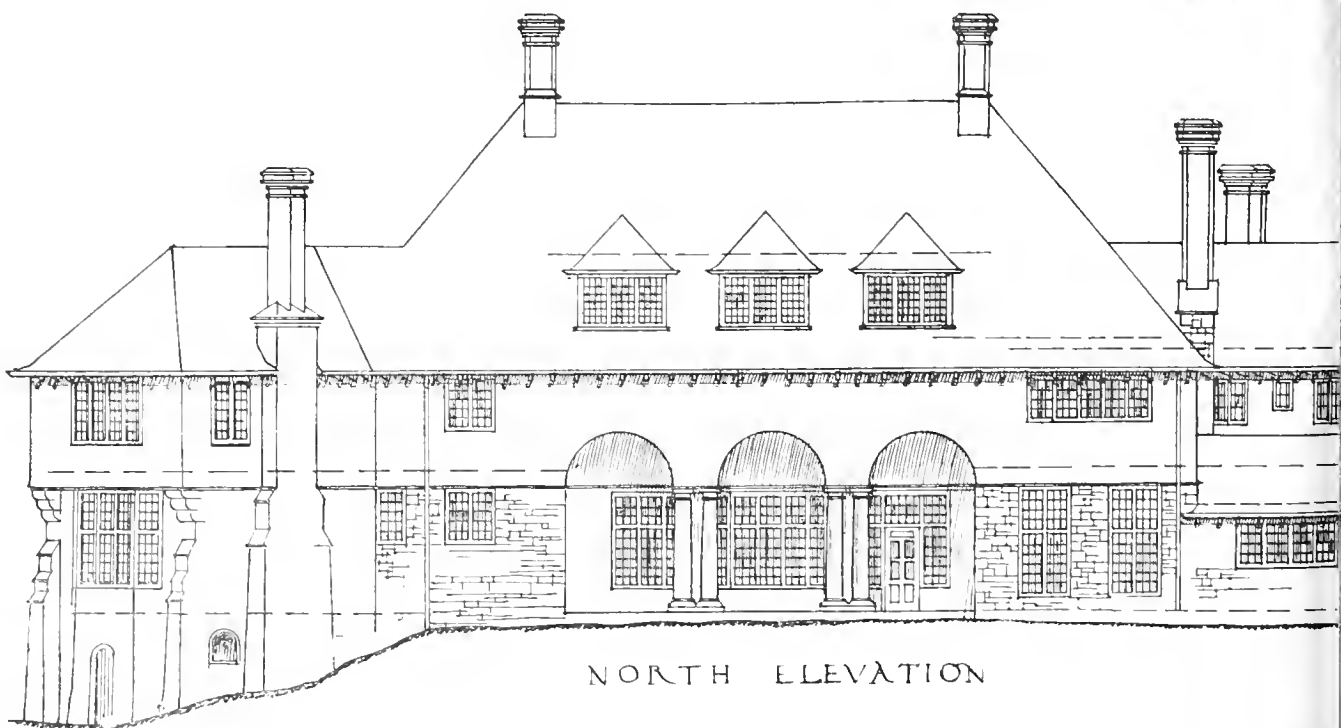
SOUTH WEST ELEVATION
KITCHEN WING



COL W. DALRYMPLE
WESTCLIFF JOHANNESBURG
HERBERT BAKER FRIB

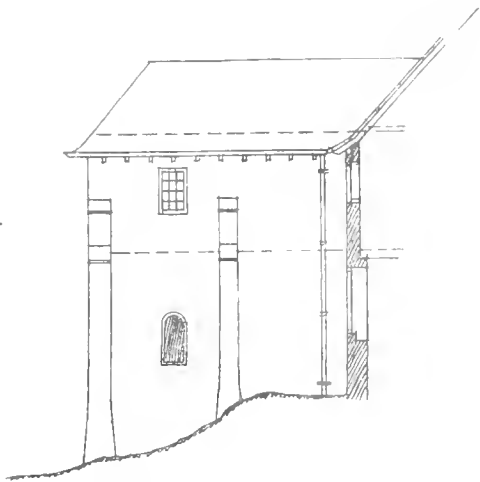


SOUTH ELEVATION

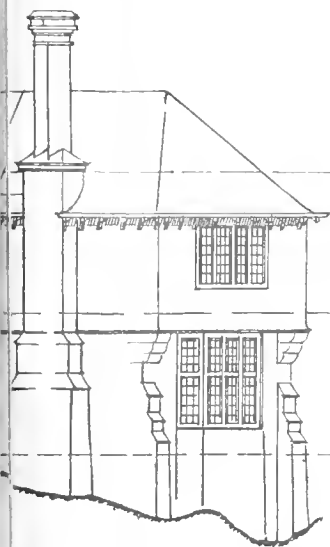


NORTH ELEVATION

HOUSE
BURG
RCHT



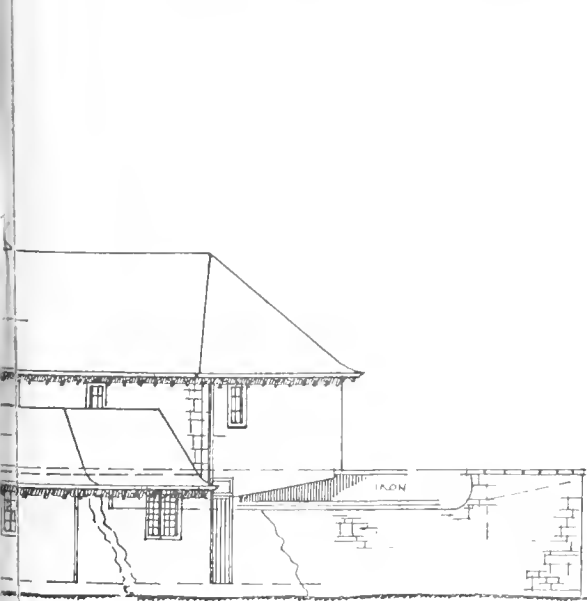
SIDE OF PORCH



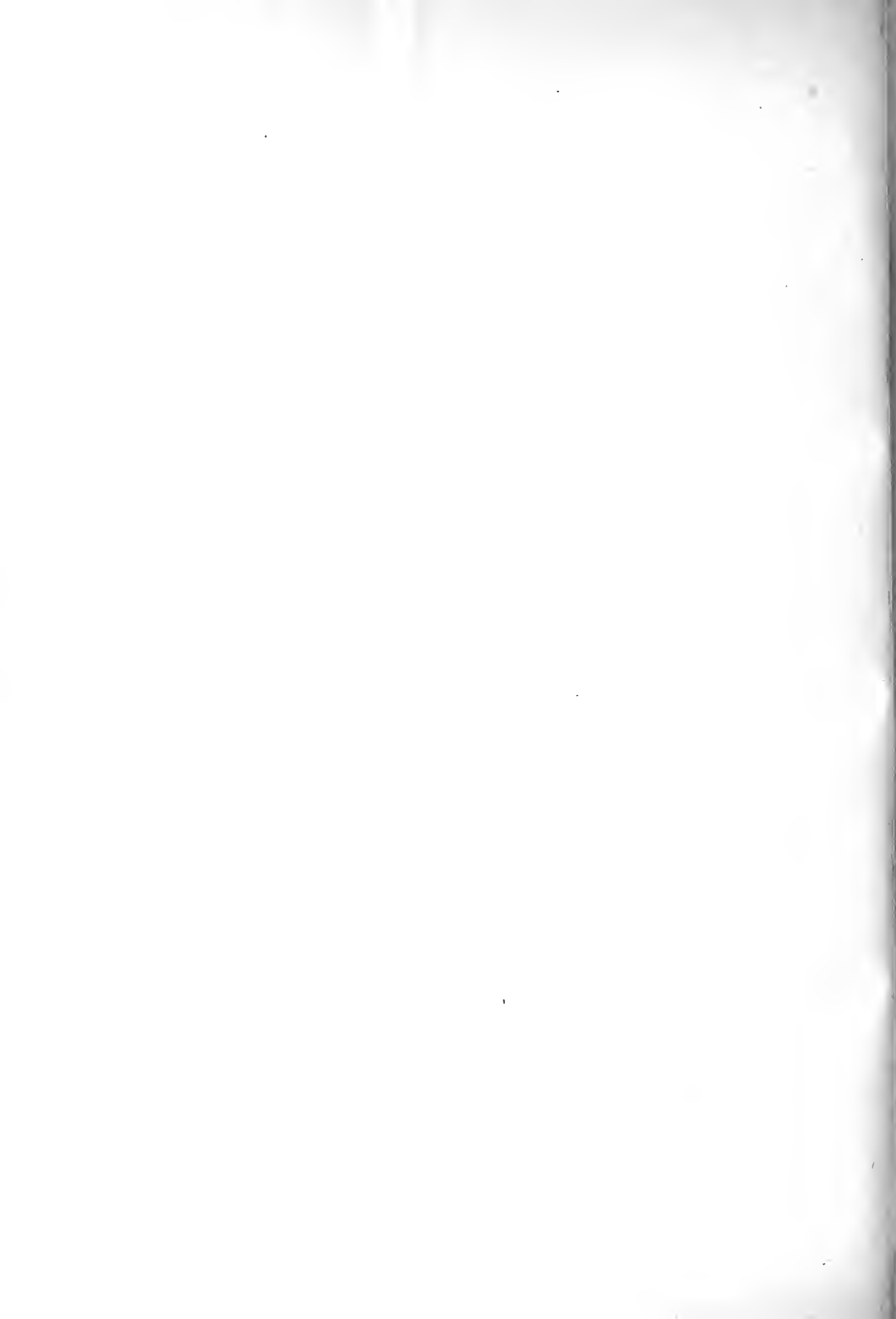
EAST ELEVATION

20 30 40 50 60 10 feet

SCALE.



SECTIONAL ELEVATION
KITCHEN WING



Our Illustrations.

THE PALACE OF THE CAMPANILE. VENICE.

Mr. C. Maresco Pearce has depicted this suggestive building in a singularly direct and effective manner. The washed monochrome water-colour here reproduced among our plates to-day is very artistically handled. Therefore, it is pleasing and kept in scale with its subject. The Palace of the Campanile relies upon its unpretentious simplicity, there is nothing ornate about it, and, moreover, the building is by no means one of the most frequently illustrated Venetian subjects. The architectural balance of the elevation is broadly composed, and also eminently suggestive, the work being ascribed to the seventeenth century. The Palace is obscurely placed in an out-of-the-way quarter of Venice, but quaintly situated in a south-westerly direction from the Rialto. Like many a more pretentious mansion, these premises are now divided into tenements so characteristic of a slum. The brick built adjacent campanile with which the Palace was incorporated certainly belongs to a much earlier date. The tower is more or less denuded of its former distinction. The designation of the house was derived from this connection, which greatly adds to the interest of the group here illustrated.

"WESTCLIFF," PARKTOWN, JOHANNESBURG. THE RESIDENCE OF COLONEL W. DALRYMPLE.

Colonel Dalrymple's house at Johannesburg stands on the corner of a kopje which forms a spur from the main ridge north of the town, which overlooks the rolling grass downs of the high veld and the distant Magaliesberg Mountains. The site is on the crown of the kopje, and commands a view of the eastern side sloping terrace gardens between the rocks and a young forest of eucalyptus trees below; and on the northern side it is near the edge of the cliff, with room only for a small flat paved garden, but overlooks the most expansive distant view.

The shape of the house with the diagonal wings was planned to suit the levels of the rocks of the site, and on the eastern side to embrace as much of the morning sun as possible, and to include a view of the sloping terrace garden on that site. In the quick changes of temperature which you get at an altitude of nearly 6,000 ft. so near the tropics, it is the morning sun which is particularly welcomed as a friend; and the bedrooms and smaller sitting rooms being arranged in these wings receive the maximum of this morning sun and air. The cyclonic dust storms, which precede the thunder storms in the summer, come from the west, and against these the plan of the eastern front gives special protection. The house is built in rough rubble masonry which was quarried on the site. It mingles in the foundations with the actual lichen-covered rocks. The roof is composed of grey-brown shingle which harmonises well with the colours of the masonry. The upper part of the site being very rocky, trees grow with some difficulty, but holes have been excavated and soil brought up, and by this time the house will be sheltered and the views framed in trees. Amongst the payment on the north of the house, which is of course the sunny side in that hemisphere, and on the terraces amongst the rocks round the house, a great variety of rock plants have been collected; and the sloping gardens below are full of specially beautiful sun-loving plants. Mr. Herbert Baker, F.R.I.B.A., is the Architect. We shall at an early date give the drawings of Colonel Dalrymple's stable buildings. The elevations and plans published to-day give the working drawings of the house.

DETAILS OF A DRAWING ROOM AFTER THE ADAM STYLE

This room, designed by Miss M. H. Hopkins, has been executed by Messrs. Lewis Berger and Sons, Limited, of Hemerton. The ceiling is white, and the walls and carved ornaments are painted cream. The mural field of the large panels is painted pale green, all in colour scale. The plaster figured plaque in the centre is of carved wood. The mantelpiece

has a pale green ground, and white figures in the centre of the frieze. In this work the designer has endeavoured to follow the typical mannerisms of the style chosen, with its ornament in slight relief. The colours common to it were pale green, soft pink, and cream or white. Very rarely was the enrichment allowed to dominate the structural lines of the work, and the general characteristics are recognisable and familiar.

ARCHITECTS' BENEVOLENT SOCIETY.

The annual meeting of the Architects' Benevolent Society was held in the rooms of the Royal Institute of British Architects, on March 21. Mr. Ernest Newton, A.R.A., the president, occupied the chair.

The annual report stated that the scheme of Civic Surveys continues to fulfil the purpose for which it was inaugurated in the three areas, Greater London, South Lancashire and South Yorkshire, and has provided temporary employment for a large number of architects. The funds administered by the society in this connection at the end of the year amounted to £9,700.

The funds at the disposal of the Architects' War Committee, which are also administered by the society, having become exhausted towards the end of the year, the president, Mr. Ernest Newton, issued a special appeal on November 26. This met with a considerable response, and the amount received will enable the committee to continue its work of subsidised employment and other methods of assistance. The amount already distributed since the formation of the committee is over £3,000.

The ordinary relief work of the society, the assistance of pre-war cases and of the widows and orphans of architects, has followed its normal course, £866 16s. 9d. having been paid in grants and £227 10s. distributed in the payment of pensions. During the year two pensioners have died, and a new pension has been granted to the widow of an architect.

During the last three years there has been a gradual falling off in subscriptions and only a small addition to the list of new subscribers. The amount received in donations was £105 15s., as compared with £313 7s. in 1916. In addition to the donations, legacies of £50 and £25 were received from the executors of the late Mr. R. Phené Spiers and Mr. Walter L. Spiers.

The president, in moving the adoption of the report, said he was sorry to notice that the amount received in subscriptions last year shows some falling off. He was sure no society had a more loyal body of subscribers; but in recent years death had made many gaps, and new subscribers have not replaced those who have gone. He hoped those subscribers who were present would use their influence on behalf of the society with their brother architects to get them to be subscribers too.

On the motion of Mr. Walter Cave, seconded by Mr. H. M. Fletcher, the council for the year 1918-1919 was elected as follows:—President, the President R.I.B.A.; Vice-President, Mr. Reginald St. Anbyn Roumieu; Ordinary Members, Messrs. Arthur Ashbridge, A. Saxon Snell, Lewis Solomon, J. T. Cackett, William Grellier, Edwin T. Hall, Henry Lovegrove, E. J. Sadgrove, Sir Ernest George, Osborne C. Hills, H. D. Serles Wood, Sydney Perks, Arthur Crow, George Hubbard.

Mr. William Woodward moved and Mr. William Grellier seconded a vote of thanks to Mr. Hilton Nash, and also moved his re-election as Hon. Treasurer, which was carried.

A similar vote was passed to Mr. Percivall Curvey, moved by Mr. C. H. Brodie and seconded by Mr. Saxon Snell. On the motion of the same gentlemen Mr. Percivall Curvey was re-elected as Hon. Secretary.

The Kingswinford R.D.C. have instructed Mr. W. Meredith, their surveyor, and Mr. A. T. Butler, architect, to formulate a scheme for housing and town planning and prepare the necessary plans.

The London County Council has appointed Mr. Lawton R. Ford as on and from the 21st inst. to be interim district surveyor for the district of St. Marylebone, his office being 60, Haymarket, S.W.1.

WESTMINSTER ABBEY.

By Prof. BANISTER F. FLETCHER.

A lecture was given on Wednesday last at Carpenters' Hall, London, by Professor Banister F. Fletcher, the subject of which was Westminster Abbey. He said that the Abbey, as it was familiarly called, was eloquent of high thoughts and great deeds. It presented an epitome of the history of our country. It was not only the building itself which exercised such an attraction for the English-speaking race, but the monuments of various ages, sizes and styles, although sometimes regarded as obscuring the beauty of the building, should really be considered as an essential part of this unique shrine, and as revealing the effort and endeavour that had gone to the making of our island story. Westminster Abbey bore the same relation to the British Empire as the Parthenon at Athens had done to the Greek states. Both were national monuments. But whereas the majestic Parthenon had been designed to celebrate victory and to proclaim Athenian superiority, our venerable Abbey Church had grown with our national growth and woven itself into the fabric of our national life. Early kings, from Edward the Confessor onwards, had pulled down and rebuilt, so that its character had changed from Norman and Romanesque to Mediæval or Gothic; and the successive and merging phases of Early English, Decorated and Perpendicular, with their peculiarly English features, had found a place and were faithfully reflected in various parts of the building; while the early Renaissance had left its imprint on the monuments, as had also the more ponderous times of Queen Anne and the Georges. At one time it had been the most important of the Royal Chapels. Edward the Third spoke of it as "the Chapel peculiar to our Palace," and it formed part of the triple group—monastery, church, and royal palace—the latter of which had been superseded by the Houses of Parliament. Thus it had kept pace with the growth and changes of the English Constitution, as this passed from absolutism to constitutional monarchy and representative government. The mitred Abbot of Westminster had been elected by royal license, sat in the House of Lords, and only yielded precedence to his brother of St. Alban's. His authority over his church had descended to the Deans of Protestant times, whose permission was necessary before either Bishop or Archbishop could officiate in the Abbey Church. The Abbey had been the centre of popular pilgrimages to the Confessor's shrine, the scene of gorgeous coronation pageants down to that of our present King, and of the sombre ceremonies connected with the funerals of many of England's greatest.

The lecturer then went on to a detailed description of the venerable building, illustrating his remarks by numerous lantern slides. He said that a temple of Apollo had, according to tradition, occupied the site, and in later times (A.D. 616) a Saxon King Sebert had erected a church there. The tomb of Sebert was still to be seen in the south ambulatory. His church had been in connection with a monastery known as the Western Minster—in reference to its position relative to the Cistercian Abbey of St. Mary of the Graces, known as the Eastern Minster, the site of which was now occupied by the Royal Mint. In 960 the Abbey had been converted into a Benedictine monastery, and in 1055 Edward the Confessor had commenced the Norman Church. This was the most important date in the history of the abbey.

Mr. Fletcher then proceeded to deal with Edward the Confessor's Church, afterwards with the Abbey Church as rebuilt by Henry the Third and later kings, then with the monastic buildings, and, finally, with Henry VII.'s Chapel. Edward the Confessor, he said, had vowed to make a pilgrimage to St. Peter's shrine at Rome, but had been released from this vow by the Pope on condition of founding a monastery dedicated to St. Peter. The plan of this church was shown on the screen, and included the choir with apse and processional aisle, the crossing and transepts of great projection, as in Anglo-Benedictine churches, and the five bays of the nave which were completed in 1065. Between 1110 and

1163, Henry the First, Stephen and Henry the Second completed the nave and aisles, and the monastic buildings, including the cloisters, the slype or passage-way, the chapter-house, and the monks' day-room and refectory, part of which still remained. The Chapel of the Pyx contained the pyx or chest enclosing the standard pieces of gold and silver coin of the realm used for testing the accuracy of the currency. The pyx had been removed to the Mint, but the chapel still had the original altar, to the right of which was the thirteenth century columnar piscina, while in the foreground was a cylindrical pier, 3 feet 4 inches high, surmounted by a moulded capital with scollops and unmoulded abacus supporting the semi-circular groined vault characteristic of the sturdy Norman architecture.

The lecturer then showed a picture of Edward the Confessor's church taken from the Bayeux tapestry. This picture, of which there was a copy in the British Museum, was, he said, of great historic interest, as it was the only picture of the Confessor's Church which had come down to us. It represented the burial of King Edward in 1066. The church was shown with a chancel having windows high up in the wall, a tower with side turrets and a sort of dome at the crossing of the nave and transepts, where Edward was buried before he was removed to the Confessor's chapel. Then there was the nave arcade of five Norman arches, while on the right the funeral procession was represented, consisting of men carrying the coffin and entering the church.

In the year 1245 Henry III. determined, said Mr. Fletcher, to rebuild the whole Abbey in the latest style of architecture. He had spent much time in France at the Court of St. Louis, had adopted French ideas, and appeared to have determined to rival the wonders he had seen at Rheims, Paris, and elsewhere. He particularly had in mind Rheims Cathedral—the French coronation church. Between 1245 and 1260 Henry rebuilt the whole of the eastern end, including chevet, transepts, and chapter house. Between 1260 and 1269 he rebuilt the first four bays of the nave west of the crossing; between 1330 and 1350 Edward III. rebuilt the refectory and south-east cloister bays; and between 1350 and 1420 Edward III., Richard II., and Henry V. completed the nave, besides reconstructing the whole of the monastic buildings, many parts of which remain to-day. Between 1502 and 1512 Henry VII. and Henry VIII. built Henry VII.'s Chapel, and in 1742 the western towers were completed by John Jaanes. The church had an extreme length externally of 511 feet. Its internal width was 73 feet across the nave and aisles, with a clear width of nave of 36 feet. The Abbey was built of Reigate stone of a beautiful brown colour, but had been recased externally by Portland stone.

Taking the Abbey in detail, Mr. Fletcher said that if we proceeded to Henry III.'s part of the eastern end we came upon the chevet. This was the earliest part of Henry III.'s building, and showed marked French influence, particularly of Rheims Cathedral. On the left was the Chapel of St. Edmund, and on the right the Chapel of St. Nicholas, with buttresses in stages surmounted by pyramidal pinnacles and light pointed windows with geometrical tracery. These were of the greatest interest to architects; because, built between 1245 and 1260, they were the earliest example in England of geometrical barred tracing, and they were copied more or less from Rheims Cathedral. Above were the clearstory windows, with their spherical triangles enclosing circular eight-foil windows, and the battlemented parapets which had been renewed in recent times. Then there was the steep roof of the nave with quatrefoil tracery parapet and a low tower over the crossing of the nave and transept.

This was shown upon the screen, and in the same illustration was to be seen part of Henry III.'s chevet, and beyond this the south transept with its buttresses weighted by pinnacles—amongst the earliest in England, because it was only after the end of the Norman period that the true Gothic articulation of structure was made manifest.

Among other parts of the Abbey which the lecturer described and illustrated was the sanctuary in which the Kings and Queens of England have been crowned. This, he said, had a fine pavement of Opus Alexandrinum executed in 1268 with materials brought from Rome by Abbot Ware. The altar and reredos were modern, by Sir Gilbert Scott in 1867; but the perpendicular screen, now much mutilated, by which they were flanked, dated from the reign of Edward IV.—1461 to 1485. The illustration showed on each side of this screen a doorway leading to the Confessor's Chapel, and, in the distance, the apse with arcade of high-pointed arches, and triforium with tracery windows. Another illustration, representing the coronation service of King Edward VII. and Queen Alexandra, showed a temporary gallery erected in the aisles for the accommodation of spectators, while the triforium was also utilised for its original purpose as an upper gallery. Thus the intention with which Edward the Confessor and Henry III. had erected the building was clearly demonstrated, namely, to be the coronation church of English kings.

Describing the remarkable chapel of St. Faith, the lecturer said that it was between the south transept and the vestibule to the chapter house. It had once been a vestry, but was now used for private prayer. It had a doorway leading from the south transept, and this doorway was a most beautiful example of early English moulding. Corbels supported the ribs of the vault, and within was a pointed arched recess containing the altar of St. Faith surmounted by an ancient painting—one of the most ancient mediæval paintings left to us—alleged to be that of St. Faith herself.

Of the shrine of Edward the Confessor the lecturer said that the body had been translated from the original burial-place under the central tower to this shrine in 1269. The shrine was a hallowed spot to which pilgrims came from all parts of the world. It was made by a certain Peter, a citizen of Rome, and had a pedestal with three trefoil arches on each long side, into which arches sick people were at one time placed for the night in the hope of a miraculous cure. The arches could also be used for kneeling in silent prayer. Twisted columns at the angles were filled with glass mosaic, and supported the reredos, surmounted by a frieze with diamond-shaped panels of porphyry and serpentine and a wainscot superstructure surrounding the feretory in which the body of the Confessor reposed. The shrine was now railed in and protected by rich cloth coverings given by Edward VII. These were suspended by chains from the high stone vault. A curious survival might still be seen on October 13, the Confessor's day, when devout Catholics knelt at this shrine in a Protestant church. Thus did the streams of English life flow on side by side with unbroken continuity.

Of Henry VII.'s Chapel the lecturer said that in 1502 the Abbey church still remained as it had been left according to Henry III.'s design. In that year Henry VII. determined to pull down the Lady Chapel—which had been erected in 1220—and erect a magnificent mausoleum for himself in the prevailing style of that period. The Early English Lady Chapel of Henry III., which was thus replaced, had only occupied the width of the nave of the later building. This was 104 feet long inside and 69 feet 10 inches broad, terminating in five polygonal chapels.

An illustration which Mr. Fletcher threw upon the screen showed the vestibule of Henry VII.'s chapel looking into the eastern ambulatory. Here, said the lecturer, the work of the three Henrys met—Henry III.'s chevet, Henry V.'s chantry chapel, and Henry VII.'s chapel and mausoleum. This last was a magnificent specimen of late Perpendicular architecture, with a spacious nave thirty-five feet wide reaching through the bronze doors at the western end. It had a large western window, lighted from an area over the vestibule leading from the eastern ambulatory, and large clerestory windows, while on either side were the stalls of the Knights of the Bath and the seats of their squires below. The stalls had been originally intended for the monks attached to this

chantry chapel, and under the lower seats were most of the famous series of misericordes of the monks, adorned with carvings satirically treating of the monastic and political life of mediæval times. The most striking feature of Henry VII.'s chapel was the fan and pendant vault—a masterpiece of English masonry and the wonder of foreign lands. Transverse arches supported elongated voussours as pendants, which in their turn supported the complete fans or conoids of ribs and panels sixty-five feet above the floor. In the words of Washington Irving, the very walls of this chapel were wrought into universal ornament, encrusted with tracery and scooped into niches crowded with statues of saints and martyrs. Stone seemed to have been robbed of its weight and to be suspended as if by magic, and the fretted roof achieved with the wonderful minuteness and airy security of a cobweb.

Another illustration showed how this marvel had been achieved. Viewed from above, it could be seen that transverse arches stretched across the chapel and supported the pendants and elongated voussours from which sprang the fans or conoids, whose ribs and panels were in one piece of stone. Hence the ribs were not constructional and did not themselves support the panels. The tomb of Henry VII. and his queen Elizabeth of York occupied a prominent position in the nave, and was enclosed by a gun-metal screen of Gothic design, made by an English craftsman named Esterfield and considered the finest piece of metal work in this country. The sarcophagus within the screen dated from 1512, and was by the Florentine sculptor Pietro Torrigiano. It was one of the earliest examples of Renaissance architecture in England. It was of black marble in the form of a table tomb, with moulded plinth supporting angle Corinthian pilasters of gilt bronze. Torrigiano, Mr. Fletcher reminded his audience, was the rival of Michael Angelo, whose nose he broke on the occasion of some dispute. The gilt bronze recumbent effigies of Henry VII. and his Queen Elizabeth of York were considered to be among Torrigiano's finest works, and were believed to be portraits. The personal characters of King and Queen were powerfully indicated not only in the faces but also in the hands, which were of an astonishing perfection of modelling. The disposition of the robes was simple, and the lions against which the King and Queen rested their feet were in spirit worthy the finest period of the sculptor's art.

Coming down to our own times, Mr. Fletcher said that the Abbey had been gradually filled with monuments to the illustrious dead, and it was now suggested that additional space might be found by adding a memorial chapel. Mr. William Woodward, F.R.I.B.A., had prepared a design for such a chapel to be erected on a site between the Abbey and Great College Street; facing the Thames and connected by cloisters with the Abbey itself. He (Mr. Fletcher) favoured a campo santo such as existed at Pisa in connection with the great cathedral there. But some such scheme might be included in the national memorial to those who had fallen in the present war.

Concluding, he said that the study of the Abbey impressed one with the idea that it was at once a triumph of English Gothic architecture, and an outward and visible sign of English religious devotion—both Roman Catholic and Anglican—and a record in stone of English achievement through the centuries. Here from the time of Edward the Confessor onwards, alike under Catholic Kings, Protestant Elizabeth, Puritan Cromwell and Constitutional monarchs, this great building had been slowly erected and developed, adorned and repaired. It had become a shrine of great Englishmen who had achieved success in every field of human endeavour. In the words of Macaulay, in the temple of silence and reconciliation the enmities of twenty generations lay buried, so diverse and conflicting had been the ideas of the men who were there commemorated. Through the centuries Westminster Abbey had claimed the unstinted care and devotion of Catholic abbot and Protestant dean. It was not too much to say that it compelled more affection and more sense of pride than any other single building in the country.

Correspondence.

FINANCE OF HOUSING.

To the Editor of THE BUILDING NEWS.

SIR,—I respectfully submit for your consideration a contrast between the proposals of the Government as to housing and those of my pamphlet, a copy of which I sent to you in January.

The Government propose that the loss on the housing shall be apportioned 75 per cent. to the Exchequer, and 25 per cent. to the local authorities, the loss thereby falling on the already overburdened taxpayer and ratepayer. I suggested the imposition of house duty on houses under £20 a year, chargeable to the owner, rechargeable to the tenant, and the extra rent, about one penny per week, provided for in readjustment of wages which must come after the war, so that there would be no loss to the Exchequer, to the local authorities, no burden on taxpayer or ratepayer; and the whole finance would be effected by a slight increase of rent balanced by a slight adjustment of wages, an equitable and economic solution of the problem.

The Government proposal, by promising 75 per cent. to the local authorities, and not even suggesting the same to private enterprise, practically gives the death blow to the latter, as it cannot, under such a handicap, compete with the local authorities. According to the Land Inquiry Report, 1912-13, private enterprise has in the past supplied 99 per cent. of the housing. This will have to be done in the future entirely by the local authorities, with very serious burden on the taxes and rates, and may have in the future to be borne entirely by the rates.—Yours truly,

EDWARD M. GIBBS.

15, St. James's Row, Sheffield.
March 20, 1918.

COMPETITIONS.

THE LOCAL GOVERNMENT BOARD AND R.I.B.A. COTTAGE COMPETITIONS.—The following are the awards in this competition for the Home Counties Area:—Class "A":—First (£100), 173, Mr. Courtenay M. Crickmer, F.R.I.B.A., 1, Lincoln's Inn Fields, W.C.; second (£50), 74, Mr. F. C. W. Barrett, 7, Apple Tree Yard, St. James's Square, S.W.; hon. mention: 334, Messrs. Wilson, Newton, and Round, 9, Mitre Court, Fleet Street, E.C.; 116, Mr. C. O. Nelson, Wood Lane, Ruislip, Middlesex; 200, Mr. C. Wontner Smith, F.R.I.B.A., 2, Gray's Inn Square, W.C. Class "B":—First (£100), 25, Mr. Alfred Cox, 3, Allenby Road, Forest Hill; second (£50), 173, Mr. Courtenay N. Crickmer, F.R.I.B.A., 1, Lincoln's Inn Fields, W.C.; hon. mention: 334, Messrs. Wilson, Newton, and Round, 9, Mitre Court Chambers, Temple; 200, Mr. C. Wontner Smith, F.R.I.B.A., 2, Gray's Inn Square, W.C.; 74, Mr. F. C. W. Barrett, 7, Apple Tree Yard, St. James's Square; 59, Mr. John C. S. Soutar, "Wyldes," North End, Hampstead. Class "C":—First (£100), 173, Mr. Courtenay M. Crickmer, F.R.I.B.A., 1, Lincoln's Inn Fields, W.C.; second (£50), 200, Mr. C. Wontner Smith, F.R.I.B.A., 2, Gray's Inn Square, W.C.; hon. mention: 326, Mr. Roland Welch, Hendon; 334, Messrs. Wilson, Newton, and Round, 9, Mitre Court Chambers, Temple, E.C.; 170 Mr. H. R. Gardner, Leatherhead. Class "D":—First (£50), 242, Mr. John A. W. Grant, 15, Gargil Terrace, Edinburgh; second (£30) 189, Mr. W. R. Mosley, 10, Sutton Place, Hackney; hon. mention, 200, Mr. C. Wontner Smith, F.R.I.B.A., 2, Gray's Inn Square, W.C. The assessors were Messrs. H. T. Hare (President), Sir Aston Webb, R.A., Paul Waterhouse, M.A., H. V. Lanchester, E. Guy Dawber (Secretary), Professor Adshead, and Mr. Harry Redfern. The designs are reviewed this week on page 240.

Mr. B. J. Pearson, M.S.L., of the Liverpool city surveyor's department, who went out to France with a lieutenant's commission early in 1915, has been gazetted a captain in the Royal Engineers.

Our Office Table.

The thirty-fifth annual general meeting of the Law Land Company, Ltd., was held on the 20th instant, at the offices, 30, Norfolk Street, Strand, Colonel Sir T. Courtenay T. Warner, Bt., C.B., M.P., chairman of the company, presiding. The assistant secretary (Mr. A. S. Ford) having read the notice convening the meeting and the certificate of the auditors, the chairman said that during the past year there had been a considerable improvement in the business. The rents were £147,026, as against £136,370. Expenses had materially increased, and the company did not reap the same advantage of their enlarged rent-roll as they would in normal times. Despite all these adverse conditions, the accounts showed a substantial net improvement, and the directors were able to increase the reserve account by £5000, making it £152,000, and after allowing for dividend on the Ordinary shares at the same rate as last year—namely, 4 per cent.—to carry forward £11,277. They might congratulate themselves on being in a thoroughly sound position.

Under the auspices of the Edinburgh Association of Science and Art, Councillor Stevenson last week submitted a paper on "The Housing Problem," with special reference to the report of the Royal Commission, with which, he said, he was disappointed. In his view what was required was a well-defined basis of valuation, for without that the owners of land would still in the future be able to secure exorbitant rates for feuing. In Edinburgh they were in the fortunate position of having a large area of unfenced land at Gorgie. If the city proceeded to develop that area it might be impossible for them to get the full feu-duty from the estate equal to the original estimate; but in view of the certainty that the expenditure necessary for a great housing scheme would be fully justified on public grounds by its effect on the health of the people he put forward the proposal that the annual deficit on such a scheme should form a charge against the public-health account.

Mr. James Bow Dunn, F.R.I.B.A., who has been elected an Associate of the Royal Scottish Academy, was born in 1861. He served his articles with the late Mr. James Campbell Walker, Edinburgh, and started practice in Edinburgh in 1887. He gained the second premium in the Edinburgh Public Library competition, and was selected architect for the Library of Solicitors to the Supreme Courts, Edinburgh. He was elected President of the Edinburgh Architectural Association, 1910-1911. He has designed many important buildings in Scotland, including the S.S.C. Library, Edinburgh; the Adam Smith and Beveridge Memorial Halls, Kirkcaldy. In partnership with Colonel J. L. Findlay, he was responsible for the erection of the *Scotsman* buildings; the Wesleyan Methodist buildings, Edinburgh; the Queen's Club and the Victoria buildings in Frederick Street; and the Dean Parish Church. He was also architect of the "Charteris" Memorial Church, Edinburgh; Burntisland Parish Church Hall; and Menstrie Church and hall; Glenfarg House, Perthshire; Balnacraig, Perthshire; Beechholme, and lodges, Edinburgh; Dromore, Gullane; Nether Caberstone and Bellenden, Peebleshire; Haggerston Castle, Northumberland; Gargrave House, Yorkshire; Middleton Hall, Northumberland; and many other residences in different parts of the country.

The late John Bright was not so successful as was Ruskin in avoiding to subscribe to an object with which he was not in sympathy. Dean Hole, in "More Memories," relates the following story:—"A witty and persistent clergyman was urging Bright to subscribe towards rebuilding his church, and got the natural reply that, as a Quaker, Bright could hardly be expected to give for the purpose. The clergyman replied that the building must be pulled down first, and that perhaps he would like to subscribe to that. And accordingly John Bright subscribed £10."

LEGAL INTELLIGENCE.

REBUILDING A WALL (Pitcher v. Salmon).—In this case the plaintiffs sought to recover £83 13s. balance of an account of £233 for work done. The defendant was a Miss Helena Amy Salmon, for the pulling down and rebuilding a wall at the Ocean Mills, Whitehorse Lane, Stepney, in August or September, 1916, which was her property, and had been condemned by the local authorities as a dangerous structure. The Official Referee said that, as the greater part of the money had been paid, he did not suppose the contract was disputed. Counsel said that that was so, but plaintiffs had done extra work. They put in a 6ft. foundation instead of 3ft. as originally intended. The defendant disputed the necessity for this, and alleged that plaintiffs had made use of certain timber joists which were her property. She also complained that the work was not properly finished. Mr. Frampton, architect and surveyor, of 4, King's Bench Walk, called in support of defendant's case, confirmed her statement as to the cement facing, but said that the wall itself, being an old one, was in itself uneven. The Referee said that the case was a very clear one. The plaintiffs had done the work according to their estimate, and the extra work charged for had been ordered by the district surveyor. The work had been carried out in a workmanlike manner, and he gave judgment for the plaintiffs for £83 13s., with costs.

CHIPS.

Mr. Tom Horsfall, of Ings House, Liversedge, Yorks, builder and contractor, has left estate valued at £48,435 gross, with net personally £21,403.

The Ludlow Rural District Council last week elected a new acting surveyor and sanitary inspector in the place of Mr. W. Mellings, resigned. The applicants were William Morris, Stoke St. Milborough, and G. P. Rogers, Craven Arms. The voting resulted: G. P. Rogers, 12; W. Morris, 4. Mr. Rogers was declared elected.

Sir Philip Pidditch has been chosen as Unionist candidate for the Spelthorne Division of Middlesex. Sir Philip, who is head of the firm of Messrs. Pidditch, Chadwick and Co., architects and surveyors, of Old Broad Street, contested the St. Ives Division of Cornwall in 1906 and East Islington in 1910, on each occasion without success. He has served on the Westminster City Council, and has been a member of the London County Council since 1907, being vice-chairman in 1913-14.

Compensation for extraordinary damage to public roads caused by timber haulage for national purposes is to be dealt with by the Controller of Roads and Bridges, Lands Directorate, War Office, in communication with the Road Board. The Army Council has appointed Road Control officers, who will give instructions controlling timber traffic on public roads. Their duties will be carried out in the closest co-operation with the highway authorities concerned in order to assist in reduction of avoidable damage to roads. The road control officers will in no way interfere with the statutory duties or responsibilities of any highway authority.

At the 14th annual general meeting of the National Association of Master Heating and Domestic Engineers, held in the Holborn Restaurant, London, on March 19, Mr. Ernest Griffiths, M.I.Mech.E., of Messrs. Dargue, Griffiths, and Co., Ltd., Liverpool, the retiring president, delivered an address on the work of the association, which had greatly increased during the past year. Mr. Frank Biggin, of the Brightside Foundry and Engineering Co., Ltd., Sheffield, was elected president for the coming year, and explained the programme in hand for the immediate future, which included the setting up of a joint industrial council for the heating and domestic engineering trade.

A proposal has been made that a memorial to the late Mr. John Trevarthen should be placed at the Farm School, Redhill, the scene of his life's work for fifty-five years. It is suggested that a Cornish cross be erected over the grave and a brass tablet be placed in a conspicuous place in the chapel, and also, if funds will allow, the addition of a choir-organ be made to the present organ. A committee has been formed to carry out such plans as may be approved, and Mr. John Hart, Lochinver, Little Heath, Potters Bar, will act as treasurer of the fund. Subscriptions may be sent direct to Mr. Hart or to Canon Vine, warden of the Farm School, or to Mr. H. W. Hill, 31, Russell Square, W.C.1. It is estimated that £250 will be required.

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TENDERS.

*.*Correspondents would in all cases oblige by giving
the addresses of the parties tendering—at any rate,
of the accepted tender; it adds to the value of the
information.

CHELTENHAM.—For erection of a shelter at the male
imbecile yard, for the Guardians:—
Wilson, A. (accepted) £23 0 0

GLASGOW.—For painting work at Ochil Hills Sana-
torium, for the corporation:—
Young, J. (accepted) £124 16 0

HAMPTON.—For repairs, etc., to Sheffield Tower?
Hampton Works, for the Metropolitan Water
Board:—
Bacon, R. H. (accepted) £58 10 0

LEWISHAM.—For adapting 41, Rushey Green as a
central clinic and maternity home, for the U.D.C.:—
James Watt, Catford (accepted).

LONDON, S.E.—For a weighbridge and foundations
for same at the Brook War Hospital, for the Metro-
politan Asylums Board:—
For 20-ton Weighbridge.
Pooley, H., and Son, Ltd., 89,
Fleet Street, E.C. (less £11 for
old machine) £494 0 0
Avery, W. and T., Ltd., 99-101,
Farringdon Road, E.C. 474 0 0
Doyle and Son, 18, Newcomen
Street, S.E. 474 0 0
Ashworth, Son, and Co., Ltd
Dewsbury (revised and inclusive
estimate)* 365 0 0
Acting engineer-in-chief's estimate, £500.

For Foundations, etc.
Edgar, H. J., 3, Craven Terrace,
Lancaster Gate £440 0 0
Kent, H., 31, Beacon Road, Hither
Green 325 0 0
Thomas and Edge, 79, New Road,
Woolwich 325 0 0
Kazak, L., 12, Steeles Road, Hanip-
stead* 250 0 0
Acting engineer-in-chief's estimate, £225.
*Recommended for acceptance.

LONDON, W.—For supply of pea gravel, for the
Wandsworth Board of Guardians:—
Thames Sand Dredging Co., 10s. 4d. per cubic yard
(accepted).

LONDON, W.—For work for the St. Marylebone
Board of Guardians. Accepted tenders:—
Andrews, painting two fire staircases, eight ward
bridges, etc., at institutions, £157 15s.; cleaning and
painting the operating room, £20 15s.; whitewash-
ing, repairs, etc., £7 13s. 6d.

MAIDSTONE.—For drainage work at the workhouse,
for the guardians:—
Walter, C. £80 0 0
Corben and Co. 75 0 0
Hodge, R.* 57 10 0
*Accepted.

OTTERY ST. MARY.—For erecting a two-stall stable
and loft, for the U.D.C.:—
Stuckey and Sons (accepted) .. £132 13 0

SHEFFIELD.—For painting work at maternity centre,
Norfolk Street, for the corporation:—
Tinker, F. A., and Sons (accepted) £168 0 0

SHEFFIELD.—For painting of Weedon Street and
Newhall Road bridges, for the corporation:—
Wilkinson, T., and Sons (accepted) £352 0 0

SHEFFIELD.—For painting 99 houses on the High
Wincobank estate, for the corporation:—
Simpson and Melling (accepted) £343 15 0

SHEFFIELD.—For additional storey to sub-station
building, etc., for the City Council. Accepted ten-
ders:—
Wellerman Bros., Ltd., additional storey to sub-
station building, £350; Staveley Coal and Iron Co.,
Ltd., circulating water discharge pipes at emergency
power station.

WEYMOUTH.—For works in Wooperton Street, for
the Town Council:—
Jenkins and Hitt £94 1 7
Conway, T., Ltd. 87 0 0
Whettam, A. E.* 79 7 0
*Accepted.

WOLVERHAMPTON.—For foundations for cooling
towers at electricity works, for the corporation:—
Ham, T. and S. (accepted) .. £901 10 0

Major F. C. Cook, R.E., Borough Engineer,
Nuneaton, has been awarded the Military
Cross.

LIST OF TENDERS OPEN.

BUILDINGS.

April 2.—Alterations to residence and outbuildings
known as "The Hills," Cannock, and adapting
them for an infectious diseases hospital.—For
the Cannock Urban District Council.—Plans,
conditions, and specification, and form of
tender, from R. Blanchard, Engineer and Sur-
veyor, Council Offices, Cannock, on payment of
£2, which will be returned on receipt of bona
fide tender. Sealed tenders to the Chairman of
the Hospital Committee, Council Offices,
Cannock.

April 6.—Addition to the administrative building
at the Gildredge Hospital, Old Town, Eastbourne.
—For the Sanitary Committee.—Plans and specifi-
cation at the Building Surveyor's Office. Ten-
ders to W. C. Field, Borough Architect and Build-
ing Surveyor, Town Hall, Eastbourne.

Mr. J. Cracroft Haller, county surveyor of
Notts, has had his salary increased from £500
to £750 per annum.

The Hinckley R.D.C. have received a letter
from the authorities of Barwell Wesleyan
Church stating that immediate steps were
being taken to alter the old premises in ac-
cordance with a plan previously prepared.

At the recent annual meeting of the Glou-
cester Diocesan Board of Finance approval
was given to a scheme for the establishment
of a residential church house in connection
with the Diocesan Mission, and it was agreed
to contribute £1,000 towards the annual
maintenance of the house when established.

At the last meeting of the Stoke-on-Trent
Corporation it was stated that it was pro-
posed to utilise Holmes Chapel agricultural
college, Chester, as a reformatory. The cost
of the necessary alterations would be about
£4,000. Accommodation would be made for
120 beds, and the council decided to take
fifteen beds.

The London county rate for the year ending
March 31, 1919, will remain unaltered. The
rate for general county purposes other than
education will be increased by $\frac{1}{4}$ d. in the £,
the rate for special county purposes being
correspondingly reduced. The education rate
will be the same. The police rate to be levied
on July 1 is to be $\frac{1}{4}$ d. in the £, a reduction
of $\frac{1}{4}$ d.

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THE BUILDING NEWS

AND ENGINEERING JOURNAL.

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OUR ILLUSTRATIONS.

Interior of St. Lawrence, Nuremberg. Etching by Mr. Arthur J. Turrell, A.R.P.E.

Strand, W.C.2

St. Wilfrid's Church, Harrogate. East End of Choir. Mr. Temple Moore, F.R.I.B.A., Architect.
The Cloisters, Wells Cathedral. An Etching by Miss Gertrude Hayes, A.R.P.E.
Stables and Garage for Col. Dalrymple, Westcliff, Park Town, Johannesburg. Plans, elevations, and sections. Mr. Herbert Baker, F.R.I.B.A., Architect.

Currente Calamo.

The London Master Builders and Aircraft Industry Association has issued an important statement bearing on the present condition of the building trade. Since the commencement of the war wages have been increased by nearly one-half in the case of the labourers and one-third in the case of the skilled trades, all classes having received the same actual increase. Practically all the workmen are working overtime, and for a 60-hours week the skilled trades are receiving £4 and the labourers £3. So that (exclusive of overtime) the money available for food and clothing has been increased in the skilled trades by over 45 per cent. and in the unskilled trades by over 60 per cent. The whole circumstances were before Sir William Robinson when he gave his award in October last, and since that date there has been no general increase in the cost of living. Certain Government departments have, however, adopted a disconcerting and bewildering course of action—viz., the bestowal of benefits on certain particular works to certain particular trades in the form of allowances for expenses, or for what is known as "wet time," with the result that these bonuses are given on some works and not on similar neighbouring works, whilst on some works certain trades are favoured with these special allowances, and other trades on the same works have no such privileges. The pledge given at the outbreak of the war by the Prime Minister, that trade working conditions should remain intact during the period of the war, is thus openly violated. To add to this confusion, the notorious additional bonus of 12½ per cent. has now been introduced into the building trade on certain Government contracts, whilst on other contracts that come within the wide definition of the Munitions Acts, this bonus is not applicable. Experience teaches that such a partial policy cannot endure. We do not believe that this additional bonus of 12½ per cent. was ever intended to apply to the building trade at all. No one asked for it, it came as "a bolt from the blue," to the surprise of all concerned, and, to make confusion worse confounded, it was made retrospective for about two months.

It is at present intended to confine this 12½ per cent. bonus in the building trade to such contracts as were made direct with the Government, but already claims are made on nearly all building works, munition or otherwise, for equal treatment. Some men "butt in" where others fear to tread. These inexperienced persons still fail to realise that the workmen in the building trade are accustomed to just and equal dealings: they resent favouritism or preferential treatment to some favoured few who may be employed in some particular district or by some particular department. A typical instance has been reported as follows:—The workmen in a certain joiner's shop, who are nailing together rough packing-cases, are entitled, under existing Government regulations, to 12½ per cent. higher wages than their fellow-workmen on adjoining benches, who are making hardwood joinery to restate air-raid damage. Such is the effect of ill-considered interference. How far and how soon these paralysing conditions will permeate the whole trade no man knows, so all those whom it may concern should realise that it is not possible to frame even approximate estimates of the cost of building operations, and, moreover, it may become impossible to conduct business at all until some order is evolved out of this chaos. The obvious remedy is the prompt establishment of some central authority to determine some definite rate of wage for each trade engaged upon munition works that shall include all these indiscriminate bonuses and allowances created by percentage or otherwise, so far as they can be justified by existing conditions, and in view of the statement that there has been no general increase in the cost of living since the award of Sir William Robinson in October last. Moreover, no Government department should be allowed again to tamper with any such authoritative decision. If it is—if as in other trades, as in the printing trade, in which, as we mention on another page, another unwarrantable and large further increase has been insisted on—an early cessation of all industry seems certain, for it will be impossible for employers to sustain these latest additions to the losses they have borne during the last three and a-half years.

We have repeatedly called attention to the neglect or ineptitude of the Government officials concerned with the erection of the buildings which have been rushed up wastefully and badly for the housing of troops, munition works, and the like, and we are glad to note a timely circular issued by Mr. Thomas Foster, chairman, and Mr. Samuel Wigham, secretary, of the North-Western Federation of Building Trade Employers, as they point out:—

The trouble dates back to July, 1916, when building operations of over £500 in value were prohibited unless a Government permit was obtained. In the Government's haste to secure buildings for housing of troops, munition works, etc., contracts were given out on the basis of profits forming a percentage on cost. At the same time departmental officials insisted on far more men being kept on these jobs than could be properly employed owing to lack of co-ordination between the supply of materials and disregard of the space in which men could work to advantage. More than two years ago the North-Western Federation caused protest to be made against these wasteful methods, but without avail. Instances were furnished to the Ministry of Munitions of cases where workmen were compelled to idle owing to bad organisation; but nothing was done.

There was, it is true, a conference held in November, 1916, of the Liverpool Master Builders' and Operatives' Associations, the North-Western Federation, in conjunction with the Operatives' National Unions, a conference held in one of the committee-rooms of the House of Commons, at which members of Parliament representing North-Western constituencies and representatives of the Ministry of Munitions were present; but nothing came of it.

Last October two conferences were held on the suggestion of Sir Auckland Geddes, and the building trade representatives were asked for suggestions and their assistance to the Government in their difficulty to get work done. After a very thorough discussion the suggestion was put forward that the various Government departments should entrust their building requirements to a joint committee of employers and operatives, who would undertake the allocation of the work. This central committee would approach the trade organisations in any locality where building work was required, and would arrange, wherever possible, for the co-operation of employers and operatives on the spot to get the work done. Five months have elapsed since these conferences took place, and nothing has been

done to carry out the recommendations unanimously approved on that occasion. No one can accuse Sir Auckland Geddes, or the members of his staff who were present at the meetings referred to, of any responsibility for the neglect to put into effect the suggestions emerging from the meetings. They welcomed the proposals, and appear to have done their best to get them adopted. The fault lies elsewhere, and it is for the people to insist, through their representatives in Parliament, that whoever stands in the way of the efficient discharge of the country's business must be "fired out." If they are not, the waste of money and labour will go on to the finish of the war; and the utter needlessness in many cases for the compulsory withdrawal of labour from ordinary building work will send more builders into bankruptcy, and still further swell the huge total of waste and bad work which is still mounting portentously to alarming figures at a time when every shilling the nation can spare is wanted for more men in the field and more munitions.

In a trenchant and timely letter to the *Times* Lord Hylton, whose Bill dealing with building by-laws has twice passed the House of Lords, points out the extreme unlikelihood that the vast though vague schemes now being hatched by the Ministry of Reconstruction and in other quarters for the promised building of new houses all over the country by the ten thousand, will meet the need, and suggests that what is wanted is a plan for enabling those who own existing houses, occupied by workmen, to maintain the same in decent repair until at least the way is clear for building on a large scale. For the situation undoubtedly, as Lord Hylton says, is becoming worse from month to month, if not from day to day. Air raids have already destroyed and damaged many such houses, and may destroy very many more. All house property has been gradually or rapidly deteriorating since the war; paint and lead for essential repairs are almost unprocurable in country districts. Moreover, the Act of 1915 forbidding increase of rent for houses under £26 annual value—praiseworthy as its object was—has proved an unfortunate measure in certain respects. It has forced many owners of small property, who cannot afford to be altruists, to allow old houses to become derelict, whereas they would have somehow contrived to keep them repaired, despite all difficulties, had they been permitted to charge a moderate increase of rent. The Act requires amendment in order to meet cases of this sort. And it would be of advantage to the community that an easy method should be forthwith formulated enabling owners of small houses to borrow money from the Treasury for the purpose of necessary repairs, whilst the war lasts, on the security, if so thought advisable, of the dwelling-houses, and thereby prevent the number from still dwindling, as dwindle it otherwise assuredly must. Under present conditions new houses will

not, and cannot, be built, though the air be darkened by showers of circulars from Government departments to local authorities on the subject. We might at least try to keep those habitable which are in existence, unless indeed, as Mr. Hayes Fisher says, it is "all over" with the private builder, and Mr. Lloyd George's promises, to do him tardy justice, are all merely more "filling in the time," of the sort tried on the Sinn Feiners, as sketched by Mr. Ravenhill in *Punch* not long ago!

The Belfast branch of the Auctioneers' and Estate Agents' Institute of the United Kingdom has issued a report on Belfast Housing. It points out that with a population of 410,000 Belfast has during the past forty years been one of the best, if not the best, housed towns in the kingdom, and that the artisan population have been fortunately able to live in small, self-contained houses at rents ranging from 2s. 6d. to 5s. 6d. per week, including rates. It is, the fact that "unfortunately the Government introduced into their Finance Act of 1909-1910 clauses which immediately had the effect of very seriously injuring building enterprise, and from that date few houses were built where thousands were necessary, with the result that we are now faced with a very serious shortage in all classes of house accommodation, causing great inconvenience and, in many cases, suffering to the inhabitants and retarding the industrial progress of the city. These land clauses have not only stifled the building of dwelling-houses, but have been abortive as a revenue-producer, and should be immediately abrogated." The result is a present shortage of at least 5,000 houses. The suggestions offered to meet this deficiency are practical and business-like, and contrast refreshingly with some of the wild talk here. After careful research the report records a firm conviction that it would be "a grave error" for the Corporation to go in for a large municipal building space as experience has proved that such schemes are costly and ineffective. It advises a State fee grant in order to bridge over the difference between pre-war rents, and those of the near future, and the provision of good designs, and that the Corporation should be prepared to advance to such societies, organisations, or responsible private individuals 80 per cent. of the net cost of the erection of the houses, while societies, etc., who build such houses, should agree to let them at a fixed rent, which would pay a remunerative return for the capital they have invested in the enterprise. The Corporation should have the right or option to acquire, on behalf of any ratepayer, any such house for self-occupancy at the prime building cost, plus a fixed percentage to cover charges and working expenses. The advances made by the Corporation should be for a fixed term of years, and at such a rate—after providing for the re-payment of interest on capital invested, sinking fund and other charges—as not to cost approximately much more than the rent paid by occupying tenants, and that advances should be restricted to houses which do not exceed an annual Poor Law

Valuation of £26. All of which is sound, solid sense.

The Edinburgh Merchant Company's Special Committee, appointed in December last to consider and report as to the main causes of stagnation in the building trade in that city, point out that while the trade, like others, experiences cycles of prosperity and depression, the ebb of late has been altogether too prolonged and abnormal not to give pause for serious thought. They unanimously arrived at one explicit conclusion, and that was that one of the main contributory causes was to be assigned to the acrid political campaign which took place in this country in connection with land values. Within a short time after the passing of the Finance (1909-10) Act, the result was apparent in the very marked diminution in the erection of houses for the working classes throughout the country. Among remedial measures suggested by the Committee are the cancellation or amendment of Part I. of the Finance Act, the relief of property from some proportion of local rates and imperial taxes; the formation of a strong national federation of land and property owners to watch all political, municipal, or State proposals in connection with heritage; the restoration of public confidence in heritable property as an investment; the amendment of the House-Letting and Rating (Scotland) Act, 1911, at least so far as to cancel the collection of occupiers' rates by owners; the simplification of legal formalities in the selling, buying, and mortgaging of land and property, and the consequent material reduction of costs; the obtainment of increased output from the worker, the use of substitutionary materials, the adoption of new ideas, improvements in planning, and the exercise of every endeavour in constructional detail to minimise the cost of production; the removal of all the fettering restrictions and bureaucratic control, instituted since the war began, so soon as practicable after peace has been declared; the institution of an independent Appeal Court of experts, apart from the magistrates and Council, in connection with the assessment of the rents of occupying owners; the promotion of house ownership for personal occupation among all classes of the inhabitants and the encouragement in every way of the industrial development of the city and its vicinage. The future relations between capital and labour, the committee note, will be a troublesome question in the building industry after the war, as indeed in all industries. Wages formed probably about 60 per cent. of the cost of erecting a building. If about the same ratio of wages be taken for the materials used the total proportion would be 80 to 85 per cent. This shows that wages form by far the most vital factor in the elements which make up the cost of production. The importance, therefore, of getting the best and most efficient workers is evident if the producer is to enter the competitive arena on favourable terms. If on the the side of the employee there is frankly given greater efficiency, and a maximum productivity without the lamentable limitations of output that pre-

vailed before the war, then on the side of the employer there must be fair remuneration given for loyal service, improved organisation and equipment, a desire to pursue work harmoniously, and to have it carried on under healthful conditions.

It is, we suppose, hopeless to expect that much attention will be paid to the matter, but few will read a shilling pamphlet by Mr. W. Randolph, just issued by Messrs. George Routledge and Sons, Ltd., of 67 and 68, Carter Lane, E.C., entitled "The Vandalisms of Peace," without the humiliating conviction that we are little better than the Germans, who so ruthlessly destroy the treasures of beauty and interest in the regions they defile—if, indeed, without the plea of "necessity" we are not worse, by reason of our culpable indifference to the aggravation of industrialism, blind to everything but the dictates of cupidity and the material needs of the hour. Time after time we have protested against the Philistinism which has pitilessly demolished or desecrated the legacies of art left by our forefathers, and the unequalled scenes of natural interest which England has so shamelessly neglected to conserve in her capacity of trustee for the Empire; but still the black list grows year by year, and the day is not far distant when even the dullest will awake to the fact that the face of the whole country has been equally transformed, not seldom into horrors that vie with the ghastly evidences of German kultur in France and Flanders. There are some still alive to the great offensive on all that is good and of real value in our midst; but there are more whose ignorance surely alone paralyses the irresistible protest that would arrest it. No better help to those who *know* what is doing, and the worse likely to be done, than the distribution of Mr. Randolph's brochure in the districts marred by the long list he gives of the atrocities perpetrated, which he specifically lists and denounces.

A method of combining steel and concrete on bulkhead construction, probably without previous example, has just been tried at Jacksonville, Fla., U.S.A., and if the result is favourable, will probably be adopted elsewhere in connection with works where economy is imperative. Wood if perpetually submerged is a most excellent material, having an indefinite life. This has repeatedly been proved when old piling has been pulled and found upon examination to be in just about as good condition as when put down. So, if it had not been for the teredo, wooden cribbing would have sufficed to a point, say, one foot below water level. Steel would seem to have a long life under the same conditions as wood; but the matter hardly rests on equal evidence. But steel has been used at Jacksonville in two ways. First, steel sheet piling has been employed in narrow, vertical strips to provide a continuous diaphragm extending along the whole length and reaching down into the underlying rock at the bottom, for the most part, interlocked, each and every one with its neighbours along the frontage. Steel has

also been employed in a tie-back system to hold the wall upright in its proper position. The wall is held at the bottom by being driven into the rock, both sheet piles and I-beams having their feet below the upper surface of the hard material. So the work consists essentially of a fill held in place by a steel wall tied back to a buried anchorage of wood. This steel wall is faced with concrete, thick enough to cover the I-beams and walls. In addition, the concrete is carried on above the steel and forms a parapet covering the metal, back and front. Thus there is a total of both wood and steel construction back of the steel-concrete bulkhead—tie rods, anchorage, platform, supporting piles. But all of this is buried in the fill. The wood is safe from the teredo. The wood and steel will, all of it, probably be perpetually under water; while the inner surface of the sheet piling will be perpetually submerged, except what stands above water embedded in concrete. Altogether, we have an interesting effort, in the interests of economy, to take advantage of the possibilities and to beat teredo, corrosion and decay by submergence and protective covering. If it proves successful we shall have in the future other and larger examples of such combinations of wood, steel and concrete.

"Labour and Capital after the War," edited by Professor S. J. Chapman, C.B.E., M.A., with an introduction by the Right Hon. J. H. Whitley, M.P., the Deputy Speaker (London: John Murray, 6s. net) is a series of essays by the Bishop of Birmingham, Mr. J. R. Olynnes, M.P., Lord Leverhulme, Miss A. Mary Anderson, Mr. R. H. Tawney, Mr. F. Dudley Docker, Mr. F. S. Button, Sir Hugh Bell, Mrs. A. Susan Lawrence, and Mr. R. Seebohm Rowntree. The views of the different writers are, of course, diverse, and some of them seem to cover issues hardly within the compass of the main subject, but there is, at any rate, a common consensus of good intention. The Editor's own final chapter on the whole evokes most markedly our own assent. When all is said and done, the real problem we have to face is not merely the bringing about of equitable sharing in the output, but the bringing the wage-earner more vitally into relation with the conduct and development of production, through his interest and sense of responsibility. May we add that, in our own opinion, the solution is impossible, or, at any rate will be incomplete, till much of the present work of the world is eliminated, and the interest of the worker concentrated on real needs, and not on the production of things, the design and manufacture of which are degrading to the worker, and demoralising to the user.

The long litigation over tungsten filaments for electric lighting has, at last, come to an end by the judgment of the House of Lords in the case of "British Thomson-Houston Company, Ltd. v. Durain, Ltd." Their decision declares the plaintiffs' patent to be invalid, so that no injunction can be got for its

infringement, and the making of these filaments is now open to the world. There must indeed be great profits attaching to the manufacture and sale of articles of wide and common use that are protected by a patent. In this case we have had a fight to a finish, although the Court of Appeal, and now the House of Lords, have only confirmed the original ruling of Mr. Justice Astbury in his judgment at the hearing. The patentees, therefore, got no further by their two appeals, and their costly expenditure on lawyers, counsel, and experts. Their ingenious argument that the words in the evidence "metal in a coherent form" meant tungsten prepared by some special process of the patentees was overruled. The Lords held that the true construction of the claim was for subjecting any form of the coherent metal, tungsten, to the influence of heat, while it was being operated on or manipulated. But where it is put in this way there is no subject matter to support the grant of a patent, as there can be no invention in working metals under heat, a method as old as the hills. So this judgment closes the case, and it does so on the best and broadest ground that there was no subject matter, that is, no invention, shown in the plaintiffs' claim. This was the decision of three Law Lords out of four, Lord Shaw alone holding that the patentee had really made a valuable discovery of which he should reap the reward. Appealing from court to court in big cases of valuable patents is always a gamble worth the cost, for one never knows what may not result from the law's uncertainty, though here it was a costly failure.

LIGHT ROOFS.

Present necessities have dictated the adoption of roofs of the lightest possible description in the construction of munition works and kindred buildings, and it will probably be found as one result of the experience of their greater permanence than many had hoped for, and their decreased cost as compared with heavier coverings, that architects and engineers will give increasing attention to the matter, and that builders will find themselves compelled by the dearth of metal and timber to avail themselves of new methods and materials, and to realise that it is quite possible to construct one roof from timber which will substantially serve all purposes of good design and assured stability and yet weigh many pounds less per superficial foot covered in than one of iron, even of quite aerial proportions. Iron, of course, is disadvantageously applicable to roofs of minimum weight, while it is equally obvious that roofs of wide span can seldom be successfully composed of wood alone unless employed in masses, or on some system which will guarantee the necessary strength and stiffness. A good many years ago we were impressed with a system of wood roof construction adopted by a well known asphalt manufacturer of Belfast, of which we gave some particulars at the time, and which may be worth while summarising. His works had been destroyed by fire, and he determined to rebuild them of a less costly character. He ran the walls up of brick substantially enough to serve every necessary need, and carried out the roof in wood. The spans

to be crossed were about 40 feet. From side wall to side wall a number of principals were thrown across which supported a very light platform of boards covered with tarred felt. These principals were true latticed girders, each about four feet deep in the centre of their length, and tapering off considerably towards the ends. The bottom chord cambered up slightly in the middle, while the upper member was worked to a curve which sufficed to give the fall necessary to drain the nearly flat roof. The girders were of half-inch slips of yellow pine about three inches wide, nailed together at their intersections. The bottom chord was of three-quarter-inch stuff, about six inches deep, double, one ditch at each side of the lower ends of the lattice bar; the upper member, or bow, was nearly the same in every respect; a slip, one inch thick and a few inches wide, laid on the flat, was secured at right angles to its upper edge, and on to this a light sheeting of cheap deal was secured extending from principal to principal from one end of the building to the other. Over this was nailed the asphalted felt, which was sanded and lime-washed, and the roof was complete. Not an inch of iron was used—nails, of course, excepted. The girders were very light, but strong and stiff enough. All the boarding was converted by a circular saw, and never touched with a plane, saw and hammer being the only tools used from first to last. The roof answered every purpose, and the cost was trifling. Nothing new in "principle," of course, and probably a few pounds of hoop iron properly applied in the lower chord of the girder would have considerably increased its ultimate breaking strength, and given it considerable additional stiffness.

The use of wood in combination with iron may often be adopted for considerable spans with great advantage. It is common, of course, in big jobs of a permanent character. But a cheap and good light rafter, which is not often used, but might be, is constructed after much the same fashion. Rafters, as all readers know, have double duty to do: they have to transmit to the walls a strain in the direction of their length, which is strictly compressive so far as it affects their own capacity of endurance, and they must also sustain a transverse stress tending to break them, and precisely similar in its effects to a uniformly distributed load upon a beam supported at both ends. Bodies at rest upon inclined planes, such as slates on the slope of a roof, act upon them in a direction precisely at right angles with the plane, and thus we have the transverse breaking force. Now a very small strain will suffice to resist a strain in the direction of the length of the timber. The transverse strain is not so easily dealt with, and in ordinary roofs we find that either collar beams or purlins, or both, must be introduced to render the structure strong enough to sustain its load. In very flat roofs neither of these expedients are of much use, collar beams especially being often absolutely inapplicable. When such is the case it is, perhaps, better to abandon all extraneous aid, and make each rafter sustain its own burden. This can be easily done by applying a strap of hoop-iron from end to end of the rafter. The strap should be put on slackly and screwed strongly to the rafter at each end. Two small bolts and nuts will answer better than wood screws. Struts made of small blocks of hard wood must be then interposed between the iron band and the under-side of the rafter. They need not be very deep, so that head-room may be saved. If the blocks are forced into their places they will, if properly fitted, camber

up the rafter or impart to it a curve which may easily be regulated at the will of the architect. Such a curve would, of course, prove troublesome if slates were used to cover in the roof, but for light roofs slates are not to be recommended, but with felt or thin sheet metal this camber is rather useful than otherwise.

For light roofs, and for many others, slates are being superseded by the excellent substitutes now on the market, such as Vulcanite: "Waterp," a most excellent self-finished roofing, supplied at very low price, and extensively used by all the Government Departments; McNeill's "Lion roofing"; asbestos roofing tiles, supplied by the British Uralite Co.; the "Alligator" roofing, made by the British Roofing Co.; and the Bell's Asbestos Co.'s standard "Poi-lite" tiles, which are made in blue and grey colours, which look well on any roof, and are far less heavy than and in other respects superior to slates.

Our Illustrations.

THE CHURCH OF ST. LAWRENCE, NUREMBERG.

This fine etching of this extremely interesting subject is by Mr. Arthur J. Turrell, A.R.P.E. It was deservedly accorded a prominent position on the line at the exhibition of the Royal Society of Painter-Etchers in Pall Mall this spring. The Gothic church of St. Lawrence, the finest in Nuremberg, was erected at the end of the thirteenth and the beginning of the fourteenth centuries on the site of a small Romanesque Church. In 1403-45 the nave was widened, and in 1439-77 the choir was rebuilt on a larger scale by Konrad Roritzer, of Ratisbon. The whole edifice was restored in 1824 under the superintendence of Heideloff. Seven of the beautiful stained-glass windows in the choir date from the fifteenth and sixteenth centuries, but the finest work of art in the church is the ciborium, or receptacle for the host, in the choir, the work of Adam Krafft, and it is this which Mr. Turrell has chosen as the principal point of interest for his etching. It is beautifully and elaborately executed in stone in the form of a tower 65 feet in height, and enriched with many sculptures of scenes from the life of Christ. The apex of the tower is bent like a bishop's crozier. It rests upon the three kneeling figures of the sculptor Adam Krafft and his two assistants, who were engaged upon the work from 1493-1500. These figures, however, do not appear in the present etching, the base of the tower being hidden from view. We are indebted to Messrs. P. and D. Colnaghi and Obach, 9, New Bond Street, for permission to reproduce this picture. The plate measures 22 inches by 12 inches.

THE CLOISTERS, WELLS CATHEDRAL*.

Miss Gertrude Hayes, A.R.P.E., has kindly lent us her charming etching of this

*The following illustrations of Wells Cathedral and precincts have appeared in THE BUILDING NEWS during recent years:—Plan, August 10, 1894. Plan of Hall Windows, Bishop's Palace, August 8, 1879. Bubwith's Tower (N.W.) and Chain Gate (Pugin drawings by S. K. Newslade), June 12, 1891. S.W. Tower (Harewell's), by Oswald P. Milne, September 7, 1906. General view from S.E., December 14, 1906. Nearer view over the Swan Pool (Elizabeth Piper), December 10, 1897. Vicar's Close from roof of Chapter House (E. C. Mallows), July 19, 1889. Entrance to the Vicar's Close, interior of S. Transept looking S.W. (E. C. Mallows), August 20, 1894. Plans and sketches of Vicar's Close and Chain Gate, by Maurice B. Adams, July 20, 1883. College Library, Vicar's Close (E. C. Mallows), August 10, 1884. Staircase to Chapter House and interior of Choir to East, by E. C. Mallows, August 17, 1894. Chapter House Entrance, April 10, 1891. Dean Creighton's Lecture, September 9, 1898. Entrance Gateway to Bishop's Palace from Moat (by Thomas Garratt), August 17, 1894. Bay window of Denery, January 30, 1885. Carved Capital S. Transept "The Fruit Stealers," December 14, 1906. Suspended canopy, originally at Glastonbury, now in the library, October 18, 1907. View looking across Retro-Choir (by Harold Oakley), August 26, 1910. General view of Bishop's Palace and Plan, January 3, 1916, by Maurice B. Adams, with article.

subject from the thirty-sixth annual exhibition of the Royal Society of Painter-Etchers and Engravers. The conventual cloisters at Wells, on the southern side of the church, were chiefly the work of Bishop Bubwith, who was in charge of the Diocese of Bath and Wells in the reigns of Henry IV., V., and VI. He is assigned the credit, by Leland's account in his "Itinerary," of having built the whole of the eastern part of the cloisters, with a little chapel beneath and a great library above, with twenty-five windows on either side. The munificent Beckington erected the western portion, when he undertook the expense of a school and schoolmaster's lodgings; this same prelate adding the southern walk of the cloisters. The treasurer of Wells, Thomas Henry, Archdeacon of Cornwall, finished the structure, closely adhering to the style and detail of the original portions. There is no ambulatory on the north flank next the church. In the garth there was a lavatory or bath.

ST. WILFRID'S CHURCH, HARROGATE.

This photograph of the east end of the choir of St. Wilfrid's Church, lately built at Harrogate, was shown at the Royal Academy Exhibition last summer, and it is the concluding picture of the series of four grouped together in the same frame. On May 30 last we reproduced the first of the set, and on July 25 two more of the pictures appeared. A description was given when these illustrations commenced with a view of the finished sanctuary. The accompanying photograph illustrates the work in course of building, some of the scaffolding being still unremoved. Mr. Temple Moore, F.R.I.B.A., of Hampstead, is the architect.

STABLES FOR COLONEL DALRYMPLE, PARK TOWN, JOHANNESBURG.

"Westcliff," the South African country house erected at Park Town, Johannesburg, was fully illustrated by plans and elevations in our issue of March 20, taken from the working drawings kindly lent us by Mr. Herbert Baker, F.R.I.B.A., the architect. To-day we give the double page showing the stables and garage buildings. The clerestory lighting of the stable, with its lofty air space and ingenious roof trussing, makes a special feature. The lodging for Kaffirs is located on two floors, and the men's apartments are set over the ironing room and wash-house, reached by an outside staircase.

Mr. A. E. Fuller has been appointed by the Hove T.C. assistant borough surveyor.

In Crown Court, Bow Street, a workshop has been established as a branch of Y.M.C.A. work for training disabled soldiers in carpentering.

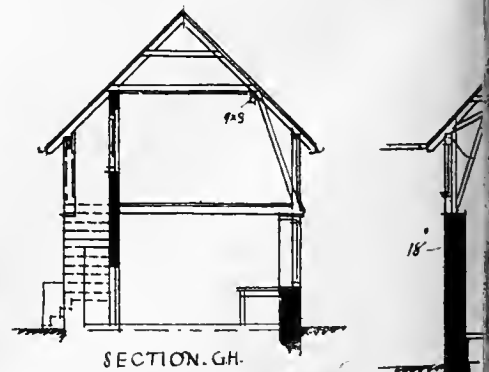
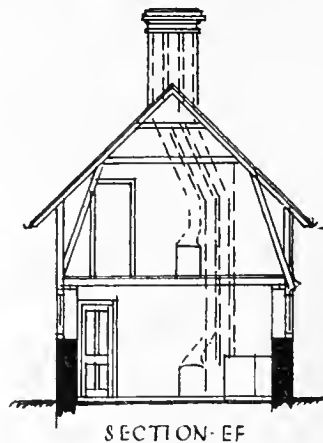
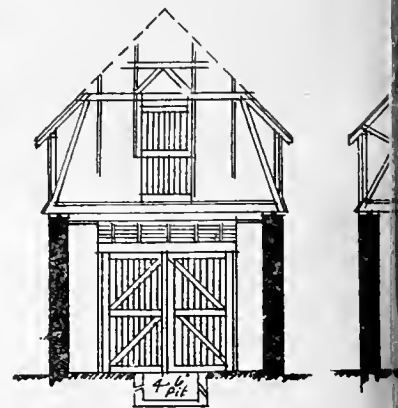
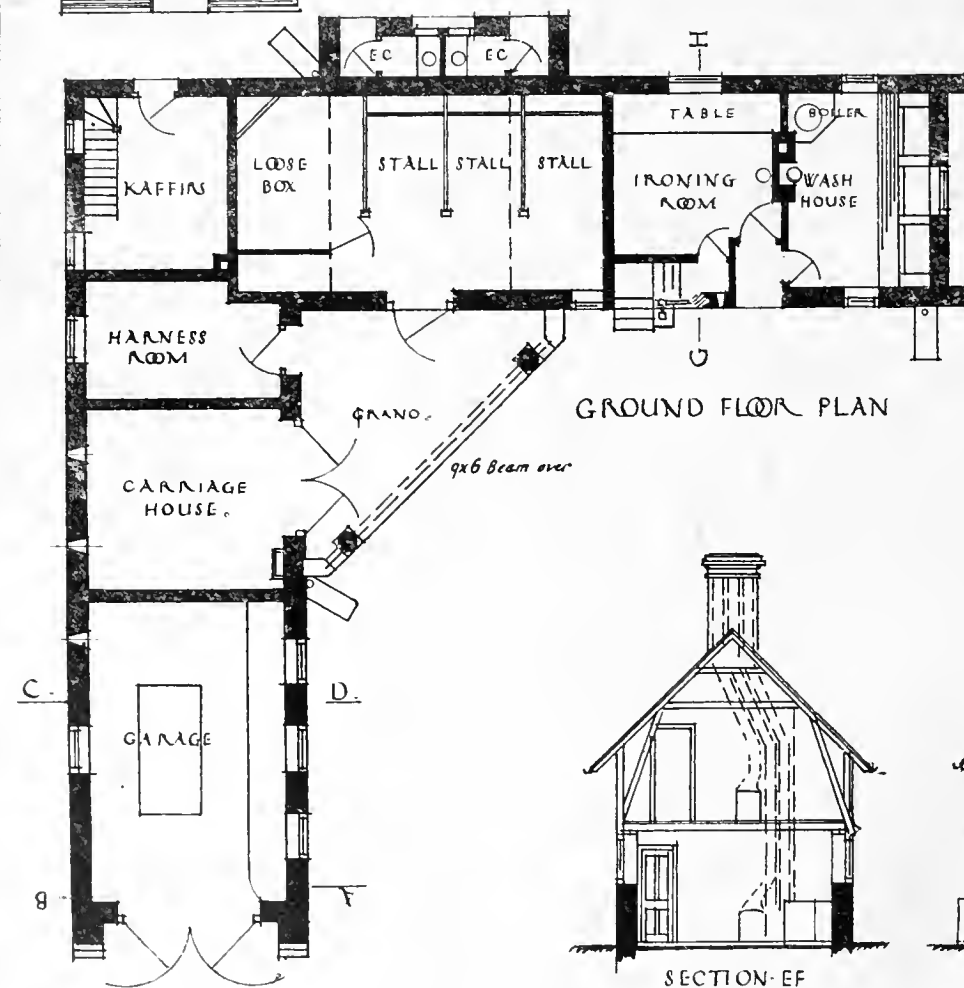
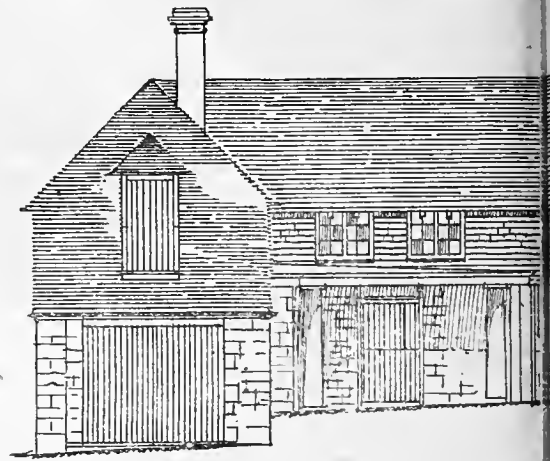
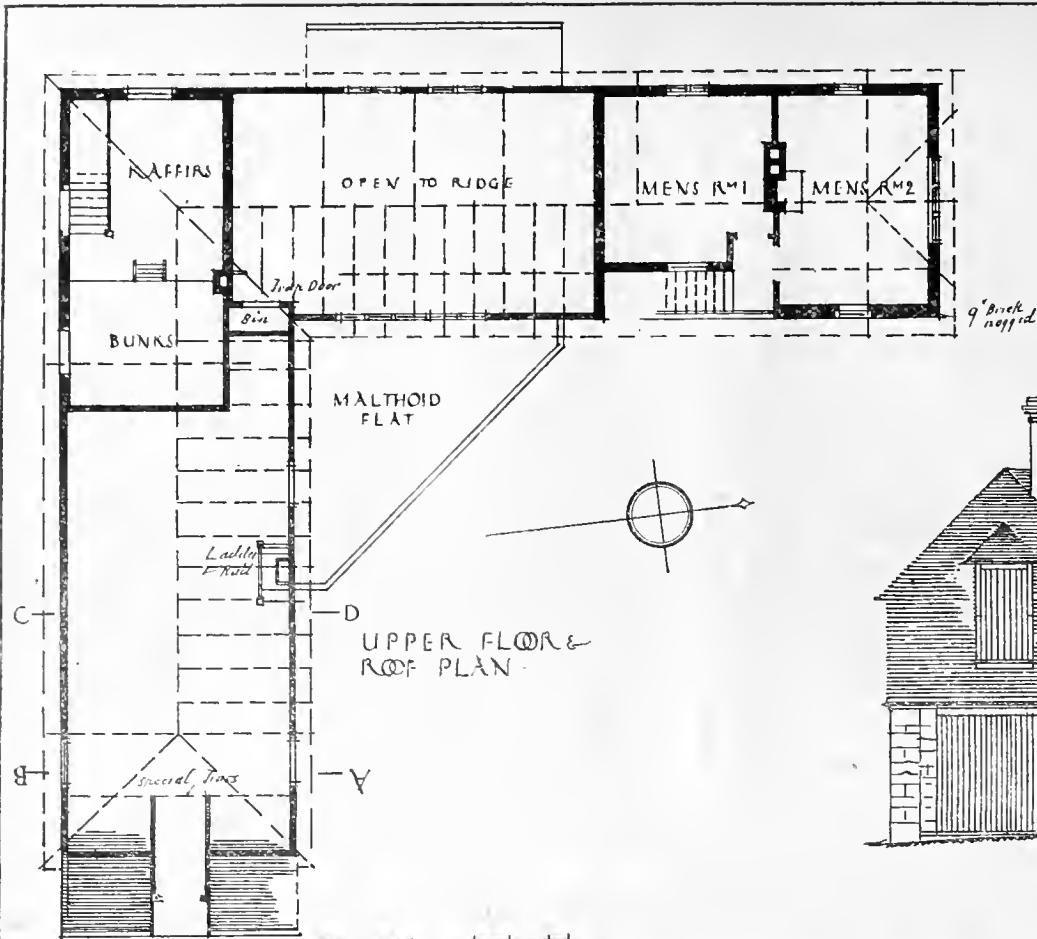
Mr. Hamon le Strange died on March 26 at Hunstanton. Originally in the diplomatic service, he was a prominent Freemason and antiquarian, and for many years took an active part in the public life of Norfolk.

Captain F. Latham, R.E., borough surveyor of Penzance, who has now been discharged from H.M. Forces as no longer fit for foreign service, on account of ill-health, is to be reinstated in his former position on May 1.

At a meeting of the Holborn division of the Red Cross Society it was decided to aim at raising £4,000 to start an auxiliary hospital for presentation to the War Office. The project is not to be proceeded with unless a sufficient sum is guaranteed to assure success.

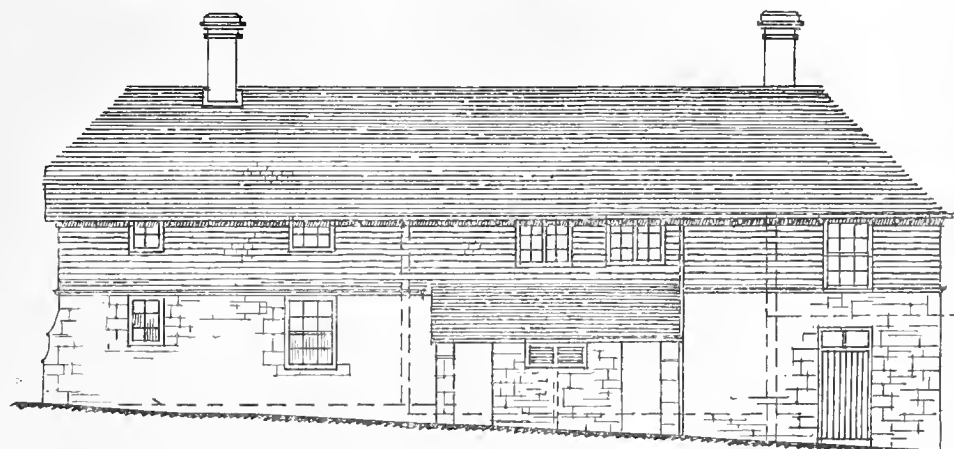
Mr. J. Seagram Richardson, senior partner of the firm of Debenham, Tewson, and Chinnocks, of Cheapside and St. James's, was last Friday elected to the chair of the Senior Warden of the Turners' Company in the place of the late Sir George Alexander.

An interesting pamphlet reaches us from Mr. F. M. Lupton, M.A., ex-Alderman, and for eight years chairman of the Improvements Committee of Leeds, on "Wide Roads and their Influence on Housing." It has, of course, special reference to Leeds, but will be read with profit by all likely to be concerned with town planning and housing. The recommendations are on the lines we have so often advocated, and on those adopted, as illustrated on p. 15 by Mr. Brodie with such good results at Liverpool.



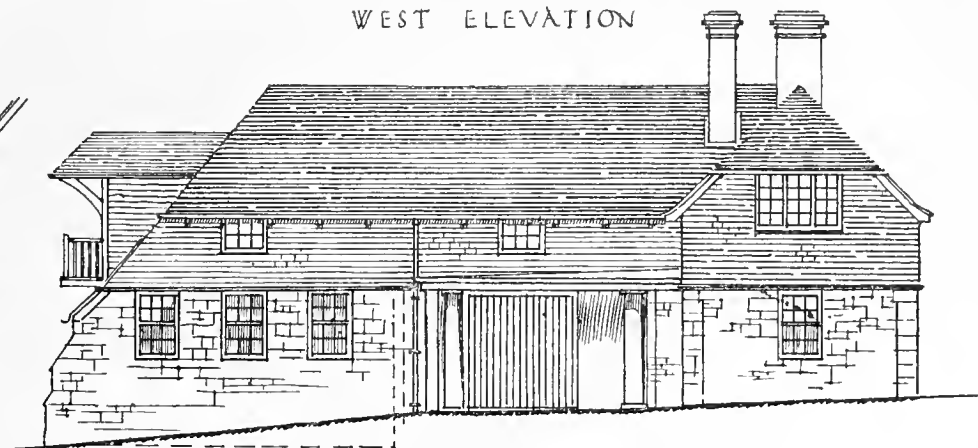
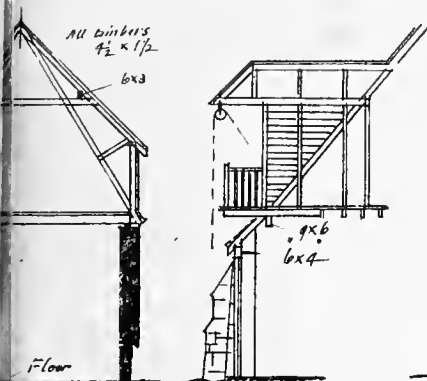
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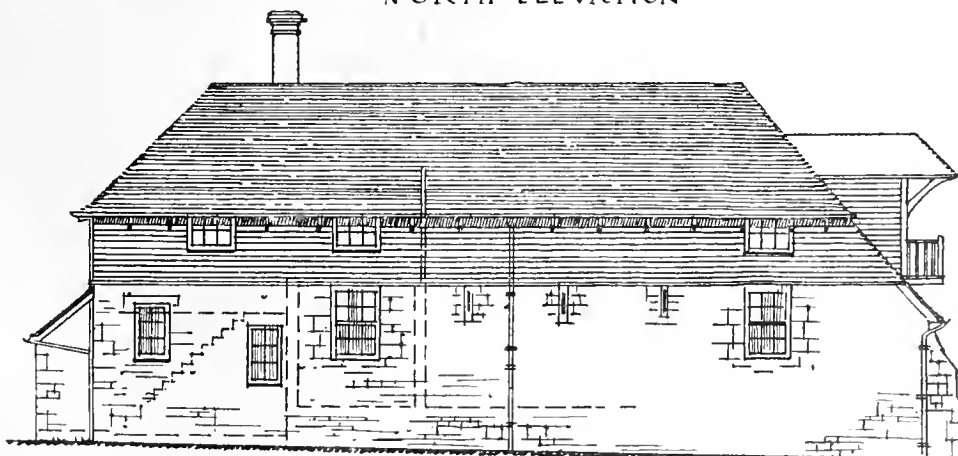
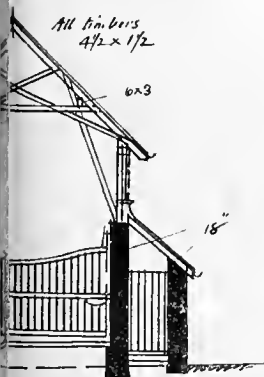
ELEVATION -

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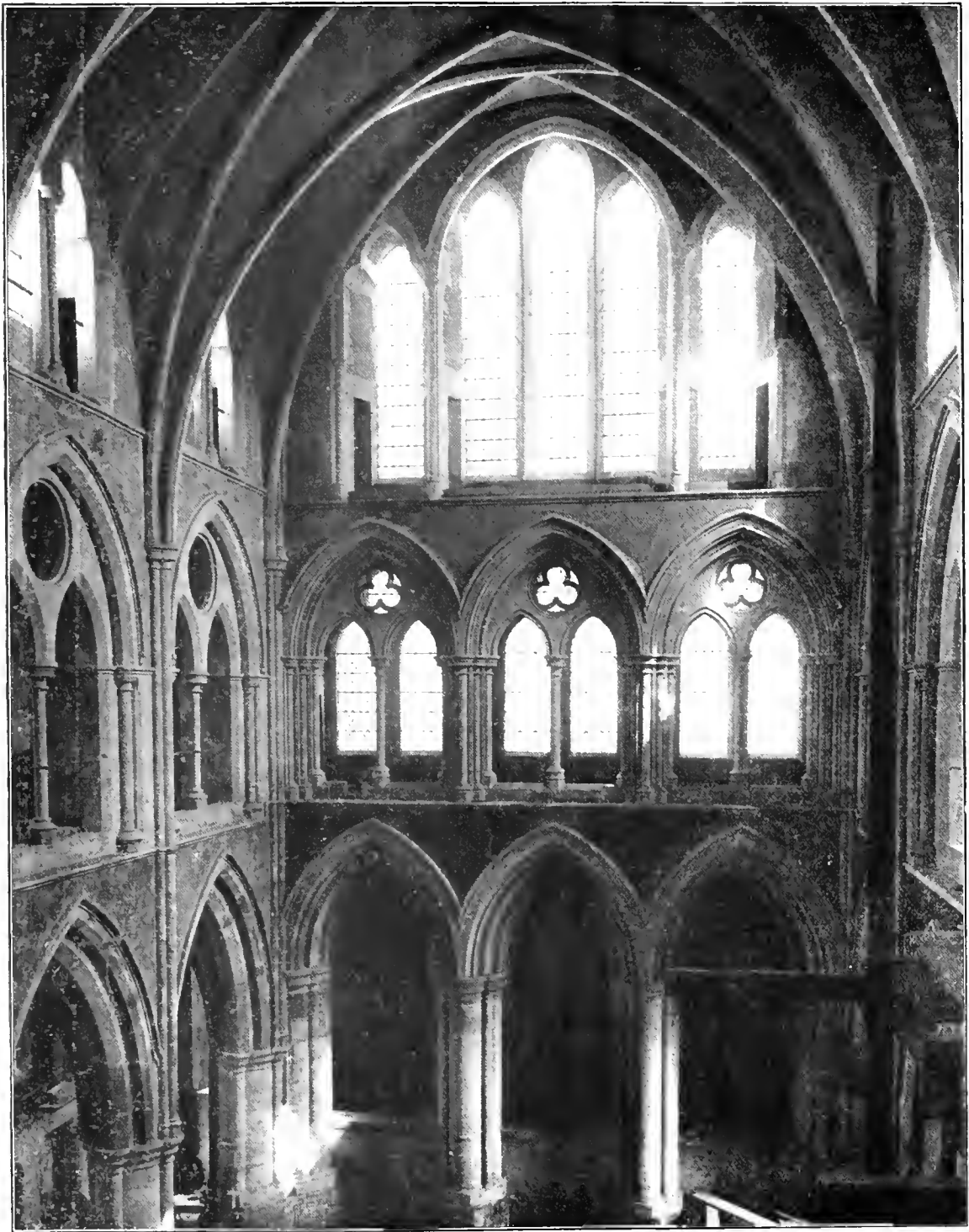


NORTH ELEVATION

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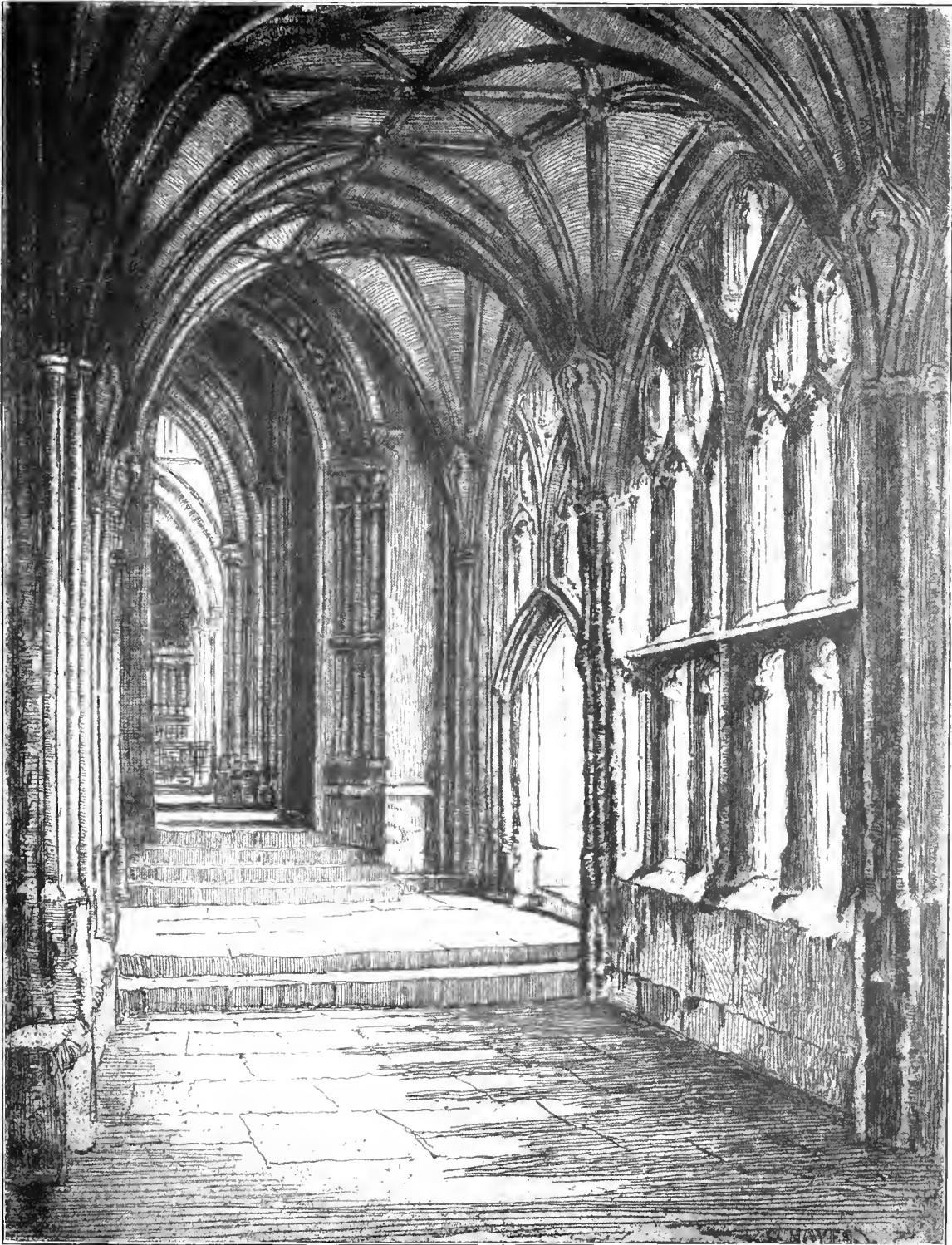


SOUTH ELEVATION .



T. J. Hanstock. Photo

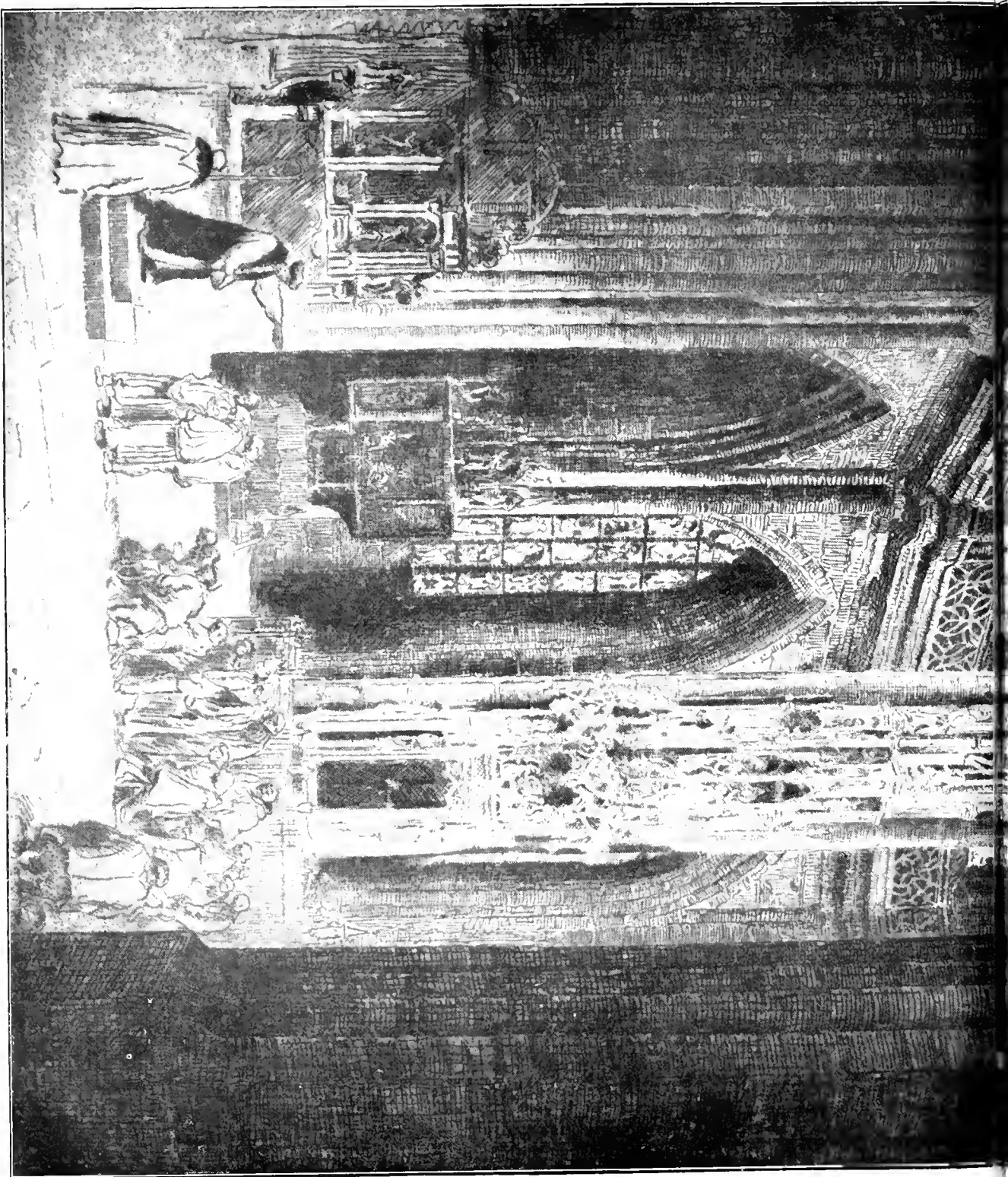
ST. WILFRID'S CHURCH, HARROGATE: CLERESTORY AT EAST OF CHOIR.
Mr. TEMPLE MOORE, F.R.I.B.A., Architect.



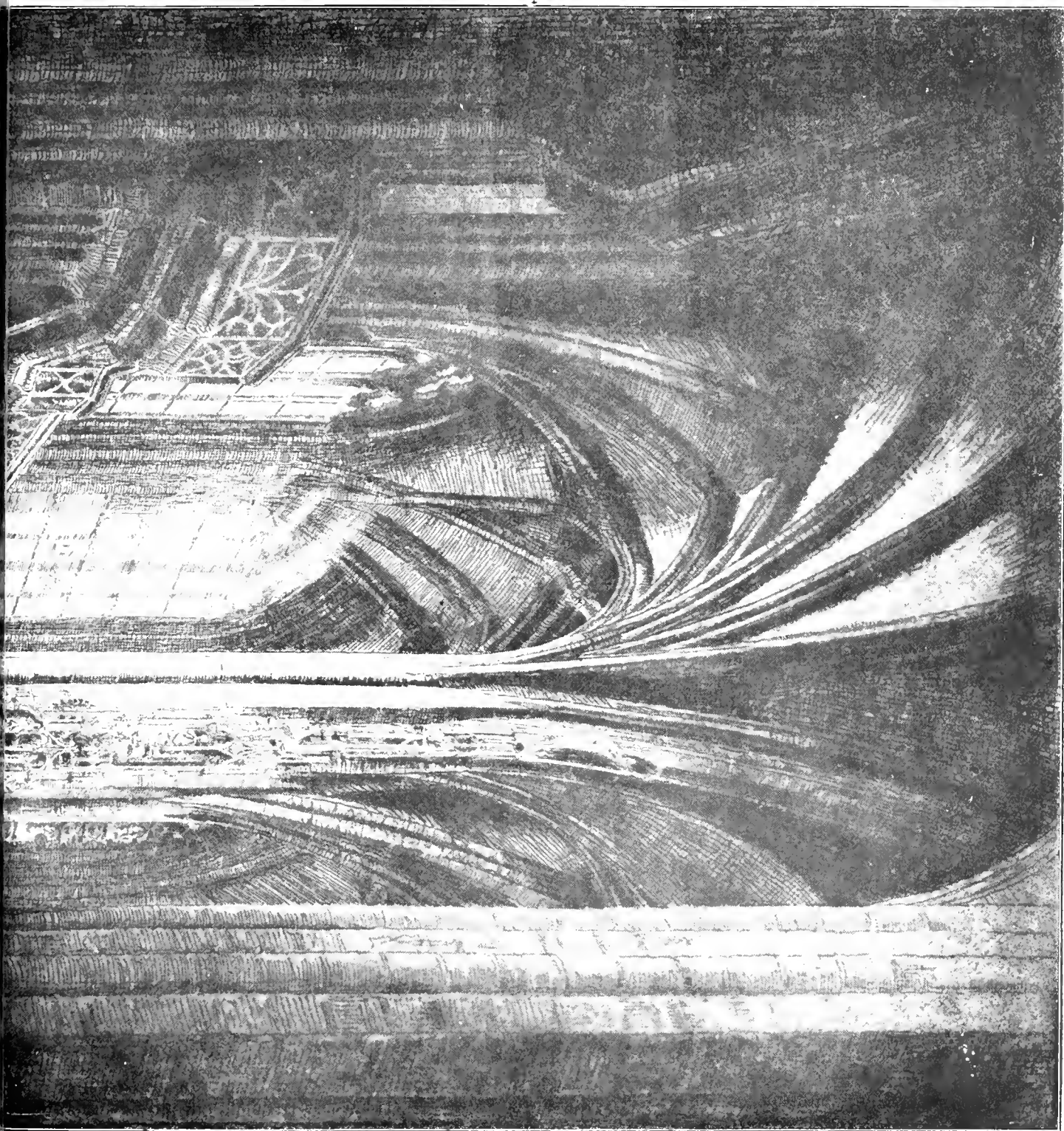
THE CLOISTERS, WELLS CATHEDRAL.

From the Exhibition of the Royal Society of Painter-Etchers.

By MISS GERTRUDE HAYES, A.R.P.E.



ST. LAWRENCE, NÎRNBERG.—By MR. ARTHUR J. TURRELL, A.R.P.E.
From the Exhibition of the Royal Society of Painter-Etchers, 1918.
(By permission of Messrs. COLNAGHI and OBECH.)





SOME PRACTICAL POINTS IN THE DESIGN AND CONSTRUCTION OF PARTITIONS.*

By H. L. BARRACLOUGH.

Simple as it may seem, the erection of partition slabs, as experience has proved, should only be entrusted to the hands of men used to this particular class of work. A badly built-up job is sure to develop cracks in unthought-of places, the blame very often being fixed on the manufacturer of the particular partition slabs. This long-suffering individual very often has little means of replying to the criticisms, where the slabs alone are supplied by him.

There are several kinds of partition slabs manufactured and on the markets:—Breeze, pumice, plaster, and clay, each of which has its special claims.

Plaster, until recently, has been the most common in use, and has many advantages over breeze slabs. Solid plaster slabs are light, easily fixed, with little or no waste in erection. When up, they form a solid wall, hygienic in all ways, as every possible lodgment for dirt and vermin is effectually closed after the walls have been plastered out, and are fire and sound-resisting, provided the work has been executed by skilled labour, which goes largely to ease the question of after-cracks.

My opinion is, that hollow plaster slabs, although lighter, have some objectionable features, the compressional strength of the slab having been somewhat destroyed through the apertures; and further, if spiking is resorted to for fixing, very often the spikes crack the slabs when being driven in, and generally weaken the whole wall.

In fixing plaster partition slabs, it is essential that the suction should be destroyed by applying a thin cement wash, and that they should be well bedded in plaster in preference to spiking.

It is preferable that all slabs, used for partition work, should be tongued and grooved horizontally and vertically, and in fixing, the grooves should be placed upwards and the joints broken, as in brickwork, and the vertical joints carefully grouted in with plaster, both where they join up to the door frames or brick walls, and where they butt against each other. Where a slab has to be cut it is advisable to form a groove by scooping a piece out.

Plaster slabs have been successfully used for external works fixed on wood framings and faced with tiles, but this is an expensive form of work, and if not carried out by experienced labour, the tiles are liable to come off.

Seven years ago, two-inch plaster slabs were used for internal and external walls of a school in Northumberland. The slabs were fixed to wood framing on outside, rendered over surface with cement, mortar floated to an even surface and rough cast with a mixture of slag and pea gravel, one-inch internal slabs nailed to framing floated and skimmed with washed haired lime and putty, and finished with putty and plaster throughout, a dado of 3 ft. 6 in. being formed with Portland cement back, and finished with Keene's cement face trowelled smooth. It has proved a very satisfactory construction as well as cheap.

A well-known firm has recently introduced a plaster slab with a special face to receive cement rendering for external work, and they claim that it will withstand the weather for twenty years without being re-rendered. These have been used for external works on several jobs in the Midlands, and would appear to be eminently suitable for a chain-system cottage or bungalow building. This system could be used in conjunction with light reinforced concrete piers and beams or wood framing, and has the advantage of being a very rapid construction. Doors and windows can practically be fixed in any position, as the openings can easily be cut, after the wall is up, without much danger of damaging other parts.

The foundation need only be 9 ins. depth of good concrete under the wall, weathered on the outside, doing away with the necessity of any damp course.

Breeze partition slabs are manufactured by several firms in various sizes and shapes. They are light, and one on the market, to my knowledge, affords a first-class key for fixing, and is cast with an indentation with horizontal edges. There is always a danger that the breeze used in manufacturing slabs may contain sulphur, which will in time discolour the plaster and cause it to scale off; and where the partition is faced with tiles the latter will crack and often fall off from the action of the sulphur, which seems to go on for a long time, thus causing much annoyance and anxiety, and where used it is advisable that the slabs should be obtained only from a firm of sound repute.

The pumice slab is a very light form of construction, convenient to handle, and is manufactured from pumice and volcanic sand (imported into this country from Italy) mixed with Portland cement. These slabs form a rigid construction when up. Nails can readily be driven into them and take a good hold, doing away with the necessity of plugging for fixing skirtings or picture rails.

The hollow terra-cotta partition tile is well known to many, and can be obtained in different sizes from several firms, and has the advantage of being easily handled. It can be obtained with a keyed or smooth face, and is being used just now extensively for exterior work. It is easily built up, the horizontal joints being bedded with cement, and the vertical joints grouted up, and seems to be quite effective in withstanding the weather, but it has only come into prominent use for this purpose recently, owing to the present shortage of other materials, and it remains to be proved what effect time will have on it. I am, however, strongly of the opinion that there are several points in its favour for this purpose, being cheaper than a brick wall of the same thickness, resists the damp better, and ensures a more even temperature, but does not lend itself to nailing. Where it is necessary to fix skirtings and rails, provision should be made for same at the time of erection by carefully inserting plugs in the joints. Should this not be done at the time of erection, and it is found necessary to fix electric fittings or hook rails, the joints should be cut out and a plug built in, as any attempt to drive a nail into the tile is generally a failure, besides being liable to break the face of the whole tile.

Those of us who have had to do with partitions know only too well that they mostly have the annoying habit of showing cracks, which more often than not go right through. These cracks may develop from either of the following causes:—

The cracks generally occur just under the ceiling or near walls and door frames, or at top corners of door frames. The cracks at the tops or by the walls may be caused by variation of temperature, causing expansion or contraction, or through the supports deflecting or settling. Cracks also are generally to be found on top storeys of buildings with large flat roofs, owing to the expansion of the flat as well as the partition, and up to the present I have not seen any successful method of stopping this occurring with a built-up partition, for even when cut and carefully filled in the cracks will readily appear again.

The cracks on doors are particularly noticeable when the jambs project a few inches above the frame, and this is caused by the wood frame swelling through absorbing the moisture from the partition whilst it is being erected. These can generally be stopped up successfully if cut out and filled in after the partition has had time to dry out, and will not appear again, provided the door frames are fixed rigidly enough to prevent the partition from being shaken when the door is shut quickly. The best remedy, however, is to prevent this by stopping the door jambs off flush and carrying the partition over in one slab. This method is now recognised by most practical fixers as the best, and, with few exceptions, is carried out wherever possible.

The position of a partition is too often left to be settled after the floor and beams are all in, and then it is placed anywhere, whether the weight is supported by a main beam or only by the floor, and more often than not get placed on the floor, away from the main beam, which may only be calculated to carry

a load of 100 lbs. per foot super; whereas many 3in. partitions, when plastered both sides, weigh 13lbs. per foot super, and 10ft. is quite an ordinary height for such a partition, therefore one foot run would weigh 180lbs. The heaviest articles of furniture in domestic buildings are generally placed against the partition, and in an office it is quite an ordinary occurrence to find a heavy safe one side and a tier of shelves filled with books and papers on the other. Taking the total weight of the safe at 15 cwt., placed in the centre of the bearing, and the bookcase at 2 cwt. per foot run, we find, if a 3in. partition, 12 ft. wide x 10 ft. high, happens to be placed on the floor as per diagram, we get the following load per foot super in that particular place:—

3in. partition—18 lbs. per ft. sup. x 12ft. wide x 10ft. high = a distributed load of	2,160 lbs.
1 safe = a distributed load of 30 cwt. =	3,360 lbs.
1 tier of shelves 10ft. wide at 2 cwt. per ft. run = 20 cwt. = ...	2,240 lbs.
Giving a total load of	7,760 lbs.

Taking the width of floor occupied as 3ft. x 12ft. = 36ft. sup.

Therefore, 7,760 lbs. ÷ 36 = 215.5 lbs. per ft. sup. on this particular portion of the floor, which is more than double what the floor weight and main beams were calculated to carry, and except for the large safety factor required by the authorities, there would be more than mere cracks appearing. The writer is strongly of the opinion that the position of all partitions wherever possible should be settled at the time of planning, and proper beams arranged to carry them, and when this cannot be done, it is advisable wherever possible to have partitions cast in situ and reinforced with small steel rods, forming a beam from wall to wall. This method has been carried out by me, and has always proved most satisfactory, and helps very considerably to tie the wall and distribute its load more evenly, and costs very little more than a built-up partition; being quite solid in construction, it is thoroughly hygienic.

There is yet another means by which a partition can be constructed without slabs, and where a very thin partition is required it has many advantages, as when finished and the whole thoroughly set it forms a very strong and rigid structure, being light, occupying little space, and being practically sound, fire and vermin-resisting. There is no temporary sheeting or strutting required, and the work can be done with little labour.

The foundation work usually consists of vertical rods, securely and tautly fastened at top and bottom by screws, nails, or clamps at about 12in. centres. To these supports expanded metal lathing is firmly secured by soft wire or some other convenient means, and both sides covered by any quick and hard-setting plasters, which can be finished to a smooth face without loss of time.

The solid partitions are sometimes built only 1½in. thick, but generally made to finish 2in. thick, and can be used in combination with any class of concrete floors and ceilings, or ordinary wooden floors. Doors and other openings that may be required for lifts or ventilation can easily be formed and frames securely fixed in position at the time of construction, or after the partition is up. The whole forms a partition possessing all the desired advantages of a divisional wall not required to carry any weight, and occupies the least possible space for such purposes. This class of partition is very suitable for internal lift wells, where good anchorage can be obtained for the vertical tie rods, as it takes up little room and stands vibration.

On March 29 the Archbishop of Dublin dedicated the Archbishop Peacocke Memorial in Christ Church Cathedral. The memorial is a mural brass, enclosed in a stone setting, placed immediately under the window in the north aisle and incorporated with the general architectural treatment of the window itself. The work was executed by Messrs. Sharp and Emery, of 17, Great Brunswick Street, Dublin.

THE DESIGN OF HEATING INSTALLATIONS.

By EDGAR HERRING.

President of the Institution of Heating and Ventilating Engineers.*

Upwards of thirty years' experience has served to convince me that the securing of the highest possible efficiency with a minimum fuel consumption has not, as a rule, received that attention on the part of heating engineers that its importance demands, and although central systems of heating necessarily show very considerable economies compared with open fires, the most economical results have not always been attained, due in most cases to one or more of the following reasons:—

- (a) Improper design of boilers.
- (b) Installation of boilers of insufficient capacity.
- (c) Neglect to install suitable draught-regulating appliances.
- (d) Incorrect proportioning of radiating surfaces and improper distribution of same.
- (e) Improper lay-out of the piping scheme, arising from neglect to properly calculate and balance circulating pressures and frictional resistances.
- (f) Neglect to suitably lag boilers and all pipes in situations where emission of heat serves no useful purpose.

Dealing with these seriatim:—

(a) Heating boilers at present on the market have efficiencies varying from about 33½ per cent. to 65 per cent. The ordinary dome-top boiler, owing to its lack of flue-heated surface, may be taken as representative of the former figure. Brick-set "Saddle" and "Trentham" boilers show a fair efficiency, but are considerably behind the best types of sectional boilers. Although in a few cases actual tests of sectional boilers have shown efficiencies of 60 per cent. to 65 per cent., it is safe to say that with several of the types on the market such a result could not be obtained, for the reason that in the endeavour to crowd as much heating surface as possible into the smallest space, the combustion chamber is cramped and the relatively cool-water backed surfaces brought into too close proximity to the fire. The sectional boiler is certainly a decided improvement on many of the old types, but we must not imagine that it is not capable of still further improvement.

Owing to the necessity of providing access to the interior for cleaning out and inspection, simplicity in form for hot-water supply boilers is a necessary and important feature; but it should be quite possible to design one with a higher efficiency than the dome-top type at present in general use. It should be borne in mind that a boiler for hot-water supply is invariably in use throughout the year, so that an economical type is even more desirable than is the case with a heating boiler.

(b) Every practical engineer should be aware of the fact that the installing of a boiler which is of insufficient capacity for the work to be done invariably leads to waste, although at first sight, especially to the lay mind, a contrary effect might be assumed. The reason for this is, of course, to be found in the fact that the endeavours on the part of the stoker to heat the building in cold weather leads to his keeping up a heavy fire and stoking at frequent intervals with dampers and draught doors full open. Under such forced firing conditions the temperature of the smoke pipe affords unmistakable evidence of waste heat being carried up the chimney.

It should hardly be necessary to point out that efficiency can only be secured by installing a boiler appreciably above the required capacity so as to permit of its being worked with a reasonable amount of attention, normal draught, and a temperature of the flue gases not much in excess of 350 deg. Fahr.

(c) The ideal conditions under which a boiler should work are that it should generate and transmit to the heating medium just that number of thermal units required by the building to make good the heat losses, which often vary from hour to hour. As it

is unreasonable to expect an attendant to stand by a boiler all day regulating the draught doors and damper to secure this result, some form of automatic draught regulator is obviously desirable. The fitting of such a device is an inexpensive item and its cost is usually covered many times over by the saving in fuel arising from proper regulation of the fire.

(d) The correct proportioning and disposition of the heating surfaces in designing an installation have an important bearing on economy. Overheating of a room naturally leads to the opening of windows by the occupants to dissipate the surplus heat, while if one or more rooms are insufficiently warmed the apparatus is generally worked at a higher temperature than is necessary for the remainder of the building, which of course leads to the same result. There can be no question that, other things being equal, an apparatus which is carefully designed and proportioned so that an equable temperature can be maintained in every room is bound to show a much higher efficiency for the fuel consumed than one designed on rule-of-thumb methods. The importance of controlling room temperature is fully recognised in America, where large sums are expended in installing systems of thermostatic regulation.

(e) A carefully calculated and intelligent lay-out of the piping scheme is equally as important as the correct proportioning and disposition of the heating surfaces, for it is obvious that without an intimate knowledge of the methods of calculating and balancing circulating pressures and resistances, we cannot possibly estimate with any degree of accuracy the resulting temperatures of the heating surfaces. It therefore follows that unless pipe sizes are correctly calculated unequal heating must result and, as already shown, lead to a waste of fuel.

Generally the mains and connecting pipes of a gravity installation which are not required for heating purposes represent from 30 per cent. to 40 per cent. of the total heating surface, and in extended lay-outs is frequently more. In many instances this percentage could be appreciably reduced if we only took the trouble to make the necessary calculations; but such a reduction cannot, of course, be attempted unless we are fully acquainted with the fundamental principles governing circulating pressures and frictional resistance.

(f) The saving in fuel that can be effected by lagging boilers and the pipes not required for heating purposes with an efficient non-conducting composition is so obvious that one cannot conceive that it should be neglected, yet it is a fact well known to you that in quite a large proportion of installations it is either altogether omitted or else confined to the boiler only and possibly a few pipes in the stokery.

DOMESTIC HOT-WATER SUPPLIES.

Under the heading (a) I have referred to the necessity for the design of a more economical type of boiler for hot-water supply. The method of obtaining a supply of hot water by means of a boiler at the back of a kitchen range, almost universally adopted in small houses, leads to a consumption of fuel out of all proportion to the results obtained, and has absolutely nothing to recommend it. The use of the ordinary form of kitchen range, in itself extremely wasteful, and the roaring away of a coal fire under a few square inches of boiler surface, for the purpose of getting what is usually an inadequate supply of hot water, is absurdly extravagant. It is quite certain that if we are to secure economies in the use of fuel in domestic buildings the present type of range for cooking purposes and the back boiler for hot water must be banished, even if it requires legislation in the shape of an amendment to the Building Act to effect it.

While on the subject of hot-water supply I should like to call attention to a very bad practice frequently adopted to save in initial cost—viz., the running of dead-end services to sinks and lavatory basins. This of necessity means that a considerable quantity of cold water has often to be drawn off before hot water can be obtained. Apart from the waste of water and the unnecessary increase of deposit in the boiler and pipes, it is evi-

dent that fuel must be expended in heating the replace of cold water entering the apparatus. It would be a good thing if all contracts for this class of work provided that hot water should be available at every point within ten seconds of turning on a tap.

In the foregoing paragraphs I have endeavoured to deal briefly with the principal points which affect the economical working of a hot-water heating apparatus. To be at all comprehensive at least a passing reference should be made to other fields in which the heating engineer is presented with great possibilities of serving the national interests.

BUILDING MATERIALS AND HEAT LOSS.

The heating industry in this country has rapidly developed during the last twenty-five years, for whereas prior to this heating engineers were, as a rule, employed only in carrying out more or less simple forms of installations, many of the larger firms of to-day are engaged in the erection of extensive steam installations on pressure and atmospheric systems, mechanical warming and ventilation, drying process, and even steam-power plants, more especially in connection with the numerous factories that have recently sprung into existence as an outcome of the war.

Such work as this affords exceptional opportunities for effecting economies, for in factories there is generally a considerable waste of heat arising from a variety of causes, not the least being due to no care being exercised in construction of the building so as to conserve the heat generated. Every heating engineer is aware that a factory or workshop, with an abnormal amount of glass surface, light roof construction (sometimes corrugated iron only) and comparatively thin walls (often of concrete 4 ins. thick) cannot possibly be efficiently warmed otherwise than by the provision of a vast amount of heating surface and the consumption of an excessive quantity of fuel. The time has surely arrived when we heating engineers, responsible as we are for a very appreciable percentage of the fuel consumption of the country, must urge upon architects and others the grave necessity of a careful consideration, from a heat-conserving point of view, of the materials to be used and the methods of construction adopted in the erection of all classes of buildings. It seems to me that it is our duty not only to make ourselves acquainted with the transmission coefficients of all kinds of building materials, but also to collaborate with architects in the endeavour to secure the erection of buildings in which the heat loss factor is reduced to a minimum.

UTILISATION OF WASTE STEAM.

Another important point in connection with fuel economy in factories and workshops which must receive more attention in future from the heating engineer is the utilisation of exhaust steam for heating purposes, boiling of liquids, drying, etc. Modern atmospheric and vacuum systems render this quite feasible, and it is difficult to understand why progress in this direction has been so slow. If we could estimate the annual thermal value of the steam blown into the atmosphere in this country from innumerable engines, pumps, defective steam traps, etc., and the discharge of condensed water into drains, we should be simply astounded at the waste of fuel involved, especially when we consider that every pound of steam represents approximately one-tenth of a pound of coal.

In every case where waste steam can be usefully employed for warming or drying purposes or the boiling of liquids, advantage should be taken of it, for we must now recognise that the saving of every possible thermal unit is an important factor in commercial economics.

EDUCATING THE STOKER.

Before concluding I should like to refer to the necessity of our efforts to secure economical results being seconded by intelligence and care on the part of the men who run the installations erected by us. It is, perhaps, superfluous to remind you to what an extent we are at the mercy of the stoker, and how all too often our best efforts are nullified by his ignorance. At present an employer is, as a rule, obliged to accept a stoker at his own valuation, and has to find

* From the Presidential Address to the Institute of Heating and Ventilating Engineers.

out by experience whether he is capable or otherwise. To my mind this state of affairs might be remedied, or at any rate considerably improved, by adopting the following suggestion, viz. :—

That facilities should be afforded at technical schools for any man to qualify as a certificated stoker by taking a short course in the rudimentary principles of combustion and practical firing of boilers. The course should be followed by an examination and test, on the satisfactory passing of which a certificate of proficiency should be given. Such certificate would be of pecuniary value to the man, as well as some sort of guarantee to a prospective employer of his efficiency. . . . That some such educational scheme is desirable will, I think, be admitted, for it is well known that, while an efficient stoker will maintain steam with a given quantity of fuel, one who is inexperienced will not succeed in doing so with the expenditure of half as much again.

COMPETITIONS.

ROYAL NATIONAL EISTEDDOD OF WALES, NEATH.—The Welsh Housing and Development Association being interested in the housing of agricultural labourers in Wales, and funds having been generously placed at its disposal for the purpose, has requested the General Committee of the forthcoming National Eisteddod to add to its programme a competition in designs of cottages and "living-in quarters"; and the Eisteddod Committee has accordingly decided to invite such designs under the following conditions :—1. The competition is open to any British subject. 2. Excepting as to class C (as to which see 7 (d) below), the buildings of which designs are sent in are to be suitable for erection in such part or parts of Wales as shall be selected by competitors and marked on the designs. Wales shall be deemed to include Monmouthshire. 3. So far as practicable, materials locally available shall be specified, and so far as is consistent with economical construction and artistic effect, local traditions of building should be observed. Regard must be had, however, to the prevailing and probably continuing shortage of various materials, and provision should be made for substitutes where necessary to facilitate and cheapen construction. 4. The designs submitted will be judged upon the basis of the combination of three main factors :—(1) Convenience of planning; (2) external design in relation to local colour and traditions; (3) economy of design, with due regard to soundness of construction. 5. The designs will be adjudicated upon by assessors, including at least one woman, to be appointed by the Executive Committee of the Welsh Housing and Development Association, and their judgment is to be accepted as final. 6. A premium of £50 is offered for the best design in each of three classes or types of cottages, suitable for agricultural labourers in Wales. 7. Particulars of and special conditions relating to cottages, of which designs may be submitted in any or all of the classes specified :—(a) Class A: living room, scullery and three bed rooms. (Prize given by Sir Alfred Mond, Bart., M.P.). Class B: Living room, parlour, scullery and three bed rooms. (Prize given by E. T. John, Esq., M.P.). Class C: Accommodation at the discretion of competitors, but with a minimum of three bed rooms, planned entirely or mainly on one floor. (Prize given jointly by Lord Boston and R. J. Thomas, Esq., Garreghoyd, Holyhead.) (b) The cottages in classes A and B are to be treated as broad or double-fronted and of two stories. (c) In classes A and B a block of four houses shall be shown, of which one of the end houses and the house next adjoining are to be planned in detail, the others in outline only. (d) The design in class C should be of a type specially suitable for Anglesey, and in harmony with the best cottage-building traditions of that county. (e) In each of the three classes, larder, fuel store, earth closet, cupboards, etc., are to be provided. The position of E.C. is to be carefully considered and convenient access shown. Outbuilding to be provided to serve as store for garden produce and tools. (f) All projections beyond the main building are to be avoided as far as practicable. (g) The

minimum height of rooms to be 8 feet, but a cove not exceeding one foot (vertical) may be shown in upper storey. (h) The minimum floor area of living room is to be 165 feet, and of smallest bed room 80 feet—in each case nett, clear of all projections. (i) Each house is to be furnished with a fixed bath. No public water supply is to be assumed, and arrangements for collecting and storing rain water and the supply of hot water are to be indicated. (j) It is to be assumed that access to the cottages is only from the front, and that the site is practically level and $\frac{1}{2}$ of an acre in extent. (k) The drawings are to consist of plans of each floor, one or two sections, as required, showing staircases and two elevations, all drawn to a scale of $\frac{1}{4}$ of an inch to the foot; and a site plan showing the disposition of the houses, boundary fences, etc., drawn to a scale of 20 feet to the inch. Designs of Living-in Quarters.—8.—A premium of £10 (contributed by Lady Boston) is offered for the best design of "Living-in Quarters" for agricultural labourers. 9. General description of and special conditions relating to "Living-in Quarters" :—(a) The building to be designed for the occupation of unmarried men, to form part of the ordinary equipment of a Welsh farm, and to be erected in close proximity to the farm house. (b) The accommodation is to consist of: Common sitting-room, with tiled or wood-block floor, good fireplace, book shelves and other fittings, and of floor area of not less than 165 feet; four cubicles with wood flooring, each with separate door opening directly into a passage and of superficial area of not less than 90 feet; lockers for clothes, etc., arranged in passage or elsewhere; washing facilities, including fixed bath; coal and wood store in convenient position in relation to sitting-room; earth closet and bicycle shed outside. (c) More than four cubicles may be shown, in which case the floor area of sitting-room must be proportionately increased. (d) Head-room to be not less than 8 feet. (e) The design to be of the simplest description, and the building to be one-storied. (f) No public water supply is to be assumed, and arrangements for collecting and storing rain-water and the supply to bath are to be indicated. (g) The drawings are to consist of a ground plan, one or two sections, and two elevations, all drawn to a scale of $\frac{1}{4}$ of an inch to the foot, and a site plan drawn to a scale of 20 feet to the inch. Further general conditions applicable to the whole competition :—10. The lighting and ventilation of all rooms, passages, and staircases are to be specially considered and dealt with. 11. The positions of all principal pieces of furniture, such as dressers, tables, and beds, together with opening of doors, points of the compass, and dimensions of rooms, are to be marked. 12. No public sewer is to be assumed to be available, and the drainage arrangements are to be generally indicated on ground and site plans. 13. The drawings are to be prepared generally on the basis of the latest Model Code of Bye-Laws for Rural Districts issued by the Local Government Board, but any variations therefrom may be made at the discretion of competitors, subject to their being indicated by a note lettered on the drawings. 14. Details or perspectives may be supplied, at the discretion of competitors. No alternative drawings will be allowed. 15. All drawings are to be on half "double elephant" sheets (unmounted), a separate sheet being used for each class, and are to be in (black) line only, without washes (excepting for a black wash over window openings), and to have walls blacked in. 16. Notes of materials, fittings, and of special features are to be lettered on the drawings, together with the cubic contents of each house, measured in the usual way. No specification or report is required. 17. Designs are to be prepared in strict accordance with these conditions, and any design which does not so conform will be excluded from adjudication. On this point the assessors are to be the sole judges. 18. Designs shall be delivered flat in a box, or between stiff casing, with official label affixed, carriage paid, and must reach the general secretary of the Eisteddod (Mr. Philip Thomas, Glynifor, Neath) not later than

June 7, 1918. Each design is to bear a "non-de-plume" only, but the name and address of the competitor in a sealed envelope, shall be enclosed with each set. The letters of successful competitors only will be opened. Unless this rule is adhered to, the designs will not be handed over to the assessors. 19. Unsuccessful designs will be returned within three months after the Eisteddod, on receipt by the general secretary of a written application therefor, together with a sum of money covering the cost of postage or carriage. The General Committee reserves the right to demand satisfactory proof of ownership. 20. Every reasonable care will be taken of all designs submitted, but the General Committee of the Eisteddod and Association respectively will not be responsible for any damage, loss or injury whatsoever, while the designs are in transit or under the control of either committee. 21. It is to be understood by competitors that the payment of the premiums conveys the absolute possession of the designs, including all copyright or other rights, to the Welsh Housing and Development Association, and that the association will be at liberty to make any use whatever of the designs, and to publish them with the names and addresses of the authors. The fact of a design being premiated shall not prevent the author from making use of it in his practice if he so desires. All designs sent in shall be at the disposal of the General Committee of the Eisteddod for exhibition, and may not be removed before the close of the exhibition. The right is also reserved for the Welsh Housing and Development Association to retain and exhibit publicly, for a period of ten weeks after the Eisteddod Exhibition, all or any of the designs as they may think fit. 22. This competition is generally subject to the general conditions governing the Eisteddod competitions, and the special conditions relating to the Arts and Crafts Competitions, except where they are varied by these conditions. The programme of the National Eisteddod includes a competition for the layout on town-planning lines of a local building area, a prize of £5 5s. being offered by the Welsh Housing and Development Association.

Our Office Table.

The Board of Trade have issued a new order as to maximum prices for home-grown timber, replacing that dated December 4 last. The principal changes made are in the prices for converted soft woods, but provision is also made for the certification of port or city saw-mills by the Controller of Timber Supplies, to whom early application for the necessary forms should be made by the mills concerned in order to obtain the benefits of the Order. Applications should be addressed to the Controller of Timber Supplies, Caxton House, Tothill Street, Westminster, London, S.W.1, and envelopes marked "Mill Certificate." The Order will shortly be on sale through the Stationery Office.

The London County Council, at their last meeting, referred back, by 27 votes to 19, the Education Committee's recommendation that the giant-in-aid to the Blackheath School of Art should be discontinued at the end of the school year. The school premises have been requisitioned by the Army Council, but other accommodation has been secured. The Education Committee, however, were satisfied that adequate provision for art teaching in the district could be made at the Goldsmiths' College, New Cross, or Woolwich. It was pointed out by Mr. G. H. Hume, who moved the reference back, that travel between Blackheath and these two places was difficult, and likely to become more so. As chairman of the Highways Committee, he might say that privileges enjoyed to-day probably would not be enjoyable next September. Dr. Scott Lidgett, pointing out the extent to which Blackheath was self-contained, pleaded successfully for "an indigenous educational interest."

The most pressing social problem of the immediate future is the provision of suitable houses for the working classes. Experience shows that private enterprise ensures satisfactory housing accommodation for the better paid sections of the community, and therefore

the building efforts of local authorities should be confined mainly to the interests of the poor. Finance, of course, plays an important part in the solution of such a gigantic problem as the housing of the poor, and economy in construction is therefore an essential aim. "Brickwork, covered externally with rough-cast or cement, is an economical form of construction," states the Local Government Board Memorandum. In this connection it is worth pointing out that the best and most lasting results are obtained when water-proofed cement is used, evidence of the successes that have followed the use of Pudlo for waterproofing both concrete blocks and cement is furnished in the Booklet 15 just published by Messrs. Kerner-Greenwood and Co., Ltd., King's Lynn, by whom it will be sent free to any reader who is interested in the housing question.

The Society of Antiquaries has heard with concern that the War Office proposes to demolish the two cottages by Stonehenge which serve as the domiciles of the custodian and the police-constable charged with the safe keeping of the monument. As these are the only available cottages in the neighbourhood, the Society feels that such action may be fraught with perilous consequences, and, therefore, has called the attention of the Secretary of State for War to the urgent necessity of taking adequate steps to protect this national monument from injury or defacement.

Mr. James Denver, Secretary of the Manchester, Salford, and District Building Trades Employers' Association, writes from 10 South Parade (St. Mary's Parsonage), Manchester, that difficulty having arisen in the building trades respecting the application of the award of the Committee on Production for a 12½ per cent. bonus to all building trade operatives employed upon the construction of Government buildings (No. 860), a joint conference was held at this office on March 27 between my Committee and the Operatives' Management Committee, when the terms and application of the award were fully considered. It was obvious that the award only applies to men in the direct employ of Government departments and engaged on the construction of Government buildings; but Clause 9 also provides that a Government department is competent to extend the terms of the award to any contractor working for that department by issuing an order to that effect. Such instructions have been given in two or three instances, but it is obvious that when complied with many anomalies will arise in respect to men employed on Government work of an indirect nature or not of a constructional character, and it was jointly agreed between the Employers' Committee and the operatives' representatives that in the case of those firms who had received definite instructions to pay, such payment should be made as soon as reasonably convenient, and that in cases where application had been made by the operatives for an extension of the award to any particular work or works, such application should be made through the Joint Committee of Employers and Operatives to the department concerned.

At a meeting of members of the London Master Printers' Association, held at Winchester House, it was agreed to give an immediate advance amounting to 20s. 6d. per week on the permanent wage with proportionate increases for women and juniors. Expert reports were presented as to the great rise in the cost of printing, the advance on pre-war costs being fully 99 per cent., which would necessitate an immediate increase of at least 20 per cent. on present charges for all classes of printing. A strong feeling was manifested that the demand for the increase of wages was not justified by present conditions, and was only conceded to avoid the possibility of a conflict during the present national crisis. This is so serious an addition to the cost of all newspapers (our own, of course, included), that, unless some of us take other steps than merely increasing price or further diminishing size, it will become a matter of very serious consideration whether it is worth while continuing publication at all.

LEGAL INTELLIGENCE.

BUILDING GREENHOUSES IN WAR TIME.—Sir James Horlick Fined £100.—Messrs. Foster and Pearson (Limited), of Beeston, Notts, were charged on the 26th ult., at the East Grinstead Police Court, with exceeding the building restrictions without a licence from the Ministry of Munitions, and Sir James Horlick, of Kidbrooke Park, Forest Row, was summoned for aiding and abetting them. The charge was in respect of a very extensive range of greenhouses, the contract for which was £2,307. The case was undertaken by the Public Prosecutor, and the defendants all pleaded guilty. Sir James Horlick said he left the matter entirely to his architect and the builders, and the latter pleaded that they thought greenhouses were not buildings. Mr. W. H. Hills, chairman of the Bench, said though Sir James was only charged with aiding and abetting, the magistrates felt he was practically the principal offender, and but for him there would not have been this serious breach of the Defence of the Realm Regulations. They could not fine him less than the maximum penalty, £100. For the builders there was some slight excuse, and they would be fined £50. The money was at once paid.

THE GEORGIAN STAIRCASE DISPUTE.—Mr. Justice Astbury in the Chancery Division, on March 26, gave judgment for the Earl of Scarborough in the action brought against him by Mr. Thomas Green, the purchaser of the Glentworth estate in Lincolnshire, to have determined the question whether Lord Scarborough was entitled to remove an oak staircase from Glentworth Hall. The plaintiff bought the estate for £11,200, and claimed that he had a right to the staircase, which was said to be of the period 1725-1765, and to be worth £1,000. His Lordship, giving judgment, said there was a clear acceptance by the plaintiff of the position that the staircase was to be removed and another put in. The only obligation was to replace the old staircase with another, but it was extravagant to say that it must be of the same character and value. In these circumstances the plaintiff was wrong in his claim, and it must be dismissed, with costs. His Lordship added that his decision was on the footing that the defendant was still willing to erect another staircase.

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*Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender: it adds to the value of the information.

BILLINGHAY (Lincs).—For construction of a retaining wall to the old bridge, Billingham—(1) in bricks laid in cement (2) reinforced concrete, for the Sleaford Rural District Council. Mr. A. Parry, Surveyor:—

Carr, G., Billingham (accepted) £42 10 0

BRIDLINGTON.—For erection of a baling-house, for the town council:—

Gant, C. (accepted) £195 7 3

DORCHESTER.—For new offices at the Boys' Home, for the Dorset Education Committee:—

Green, C. H., Blandford (accepted) £346 14 4

KILLARNEY.—For work at the workhouse, for the guardians:—

Gallivan £294 18 0
Fleming, J. J.* 225 2 11

*Accepted.

LONDON, N.W.—For supply of an 8 ft. deal cupboard, for the Willesden Urban District Council:—

Chinchen and Co. (accepted) .. £24 4 0

NEWRY.—For drainage system, for the Newry Mineral Water Company. P. J. Neary, M.R.I.A.I., Newry, architect:—

Hughes, J. £207 15 0

Lavery, M. 202 0 0

Fleming, J. 198 10 0

Savage, H.* 159 19 0

*Accepted.

WILLESDEN.—For work at the Municipal Hospital, Dog Lane, Willesden, for the Willesden Urban District Council. Accepted tenders:—

Bradford and Co., heating apparatus; Pennycook Patent Glazing Co., Ltd., glazing work; Twyford, Ltd., sanitary fittings; Duncan Watson and Co., electrical work.

LIST OF TENDERS OPEN.**ENGINEERING.**

April 10.—Resetting a bed of six single retorts at the gasworks, Haverhill (Suffolk), and supplying all materials and labour.—For the Haverhill Urban District Council (Gas Department).—J. Beasley, Clerk, Haverhill.

April 11.—Construction of a 60-in. discharge culvert and diversion of an existing 36-in. culvert at the Feeder Road electricity works, St. Philip's, Bristol.—For the Electrical Committee.—H. F. Proctor, M.I.C.E., M.I.E.E., Chief Engineer, The Exchange, Corn Street, Bristol.

PAINTING.

April 17.—Painting the bascule opening bridge over the Walney Channel (1,123 feet between abutments), Barrow-in-Furness.—For the Corporation.—L. Hewlett, Town Clerk.

PLUMBING.

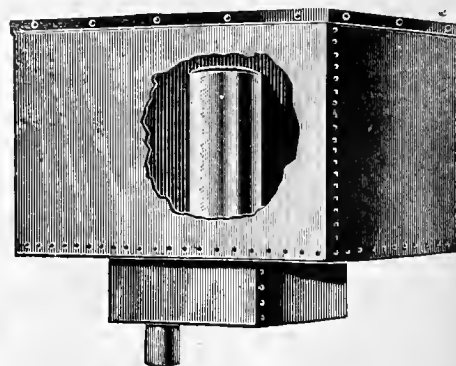
April 11.—Plumbing work in connection with the water supply of a series of allotments.—For the City of Leeds Waterworks Committee.—Chairman of the Waterworks Committee, Town Clerk's Office, Park Square, Leeds.

ROADS AND STREETS.

April 8.—Repairing and asphalt paving footpaths in the district.—For the Melton Mowbray Rural District Council.—G. E. Fryer, Surveyor, Wyndham Avenue, Melton Mowbray.

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THE BUILDING NEWS

AND ENGINEERING JOURNAL.

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OUR ILLUSTRATIONS.

Puerta del Sol (Gate of the Sun), Toledo, Spain. An etching, by Mr. Charles O. Murray, R.P.E. (from the Exhibition of the Royal Society of Painter-Etchers, Pall Mall, 1918).	
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Strand, W.C.2

The Edith Cavell Memorial, by Sir George Frampton, R.A., Sculptor. (Two views of the model, back and front, and a detail of the crowning figure.)	
Housing of the Working Classes in England and Wales. Class A. design for Urban Districts, Manchester and Liverpool Area. Messrs. Briggs and Thornely, F.F.R.I.B.A., Architects.	

Currente Calamo.

In response to requests for advice from various quarters, the Council of the Royal Academy have appointed a committee to consider war memorials, and the following suggestions are offered by this committee to those who are considering such memorials:—1. Designs should be obtained either by calling in a competent artist, or by competition; and in the event of a competition being held, whether open or limited, a professional artist should be employed as assessor, who should be consulted as to the site and the conditions of the competition. 2. The site of the memorial, especially if in the open, is of vital importance. Any odd place will not do, and advice should be taken as to the suitability of the site before designs are obtained. In large towns, for instance, a memorial should not be so placed as to obstruct traffic; on the other hand, it should occupy a position sufficiently conspicuous to be worthy of its object, and the value or disadvantage of existing buildings as a background should be considered in deciding its position. 3. Where the memorial is to take the form of sculpture or architecture, the question of material should be determined (a) by the amount of money available—e.g., for bronze, marble, stone, or wood; (b) by local considerations where these exist. If, for example, there is a suitable and durable local stone, this should be used in preference to stone imported from a distance; and if such stone is used, due account must be taken of its qualities in the design. 4. In smaller towns or villages the setting of the memorial, the approaches to it, and its immediate surroundings should be carefully considered, and the cost of laying out the site, when necessary, should be included in the scheme. The effect of a memorial is often entirely destroyed by the want of a careful laying out of the site. 5. Where memorials are proposed for the interior of churches or public buildings, whether in sculpture, architecture, stained glass, mural paintings, votive pictures, tapestry, rolls of honour, or wall tablets, careful regard should be paid to the scale and character of the architecture of the building and to any adjacent monument. 6. The lettering of all inscriptions should be carefully studied, and should be legi-

ble. A bold Roman type, or the Italian lettering of the sixteenth century based on it, is the type most suitable. 7. In all memorials simplicity, scale, and proportion should be aimed at rather than profusion of detail or excessive costliness of material. It is the imaginative and intellectual quality of the work that gives it its final value. The committee are willing to give further advice in particular cases if called upon to do so. Inquiries should be addressed to the Secretary, Royal Academy, Piccadilly, London, W.1. The committee consists of Sir Edward J. Poynter, Sir Aston Webb, Mr. Hamo Thornycroft, Sir Thos. Brock, Mr. Frank Dicksee, Mr. Reginald Blomfield, and Mr. Charles Sims. We trust the recommendations will be noticed by all really desirous of worthily commemorating their dead. Not a few of the productions of the cemetery mason, *et hoc genus omne*, which are being stuck up are insults to the slain and little more than, fortunately mostly perishable, memorials of the stupidity of well-meaning friends.

Some of the diatribes in the daily papers against the "unpatriotic" conduct of people who are buying real estate in a "booming" property market and spending "huge sums" on pictures and other objects of art, are really very ridiculous! All immediately concerned know very well that in many cases, especially of sales of property, no money passes, but the cost is being paid in War Stock, and that the buyers benefit the State by thus transferring it instead of depressing the market by selling it. In the majority of cases the new owners are not buying merely to add acre to acre, as the land magnates of past generations may have done, but to cultivate the soil or otherwise improve their purchase, and thus add to the wealth and stability of the State. As regards the sale and purchase of pictures, furniture, and the like, the seller equally benefits his country if he gets good prices, as—especially when Americans and foreigners are buyers—he increases his own capital for home investment. Our own purview convinces us that the classes who are wisely buying land and houses are the most thrifty every way just now. The most wasteful are the lower middle classes, who are frittering away in most cases their big wages on their backs and bellies, and

who, as usual, when the big wave of depression comes after the war, will have to be kept by the ratepayers, who will have to bleed the more heavily the more they have increased the value of their holdings of either real or personal estate.

The Church of St. Gervais, upon which the German shell fell with such disastrous effect on Good Friday, is one of the most beautiful and most ancient of French parish churches. The initial chapel was built in the sixth or seventh century to shelter the bones of two brothers, martyrs of the time of Nero, brought hither by Bishop Germain. The chapel was without the city boundary then; so was the parish church which succeeded it. The present building dates from the fifteenth century as regards the Gothic body of the church, having been completed in 1455. The Renaissance portal is seventeenth century work, and was finished in 1681. The church is full of historical associations. In the Chapelle Dorée, its walls lined with ancient Flemish paintings in gilt framework, the girl of fifteen destined to become Mme. de Maintenon was married to the crippled Scarron. At the Revolution the church was furiously attacked by the insurgents, who tried vainly to shake down its tall pillars, till Robespierre, anxious, doubtless, for his own safety and that of his creatures, ordered them to cease their efforts.

Our American brethren, who have found out a little later than ourselves that the German is by nature a liar and by adoption into any other nation a cheat, are much scandalised by the discovery that their famous picture "Washington Crossing the Delaware," which was painted by Emanuel Leutze, a German by birth, but "an exceedingly patriotic American," and which has been reproduced and hung in millions of American homes during the past two generations, was painted in Germany on the banks of the Rhine, and is not a picture of Washington or any of his men at all, but of German soldiers who posed for the leading figures. Of the fact there seems ample evidence; and whether Leutze was only humbugging the American people, or whether he foreshadowed the now boasted future conquest—after England—of the United States, it is equally probable that he laughed in his sleeve at his admirers. His only apologist

is Dr. Bernard J. Cigrand, who, in the *New York Times*, suggests that Leutze was loyal to America and Democracy, and meant to embody his belief that the spirit of Washington in making Democracy safe for the world would yet cross the Rhine. But the *Globe Democrat* will listen to no such an explanation, declaring that Washington is represented crossing the Rhine in the wrong direction and retreating from the Germans! Anyhow, insists the *Globe Democrat*, America's instant present duty is to drive the Germans across the Rhine in the other direction!

Cracks in plastering are not generally caused by any inherent weakness in the plaster, but rather by the shrinkage of the wooden structure to which it is attached or to unequal settlement of foundations. Abrasions of the surface will occur notwithstanding the hardness of modern plasters is much greater than formerly. As plaster is a brittle and inelastic material, it is always liable to damage. To protect the plastering from surface damage, to cover existing cracks, and to cover those that may develop later, it is customary, in good work, to cover the walls with paint applied to a fabric. For this purpose the wall is first coated with a sizing on which an unbleached sheeting is pasted. To the sheeting is applied a coating of filler on which is applied as many coats of paint and oil as may be desired. This style of finish has the added advantage that it can be cleaned by washing in the ordinary manner. As this method of wall treatment involves seven distinct labour operations, when four coats of paint are applied, it is naturally a very expensive finish. It has disadvantages in the inability of the mechanic to remove the fuzz, lumps, and tight threads which are common to the cotton sheeting used. For that reason a perfect surface is impossible. The application of paint by hand is of necessity uneven, because the brush, when first applied, is well charged with paint and the coat becomes quite attenuated at the stroke-end. Assuming a brush-stroke to be about 48 ins. long, it is apparent that there will be perceptible ridges of paint along the line where one stroke ends and another begins. In fact, this method possesses all of the defects that must go with hand work. By mechanical means the lack of uniformity in hand processes is often overcome and with no depreciation in value or appearance, and it is by such means that the type of wall finish just described has been reproduced. As described by the *American Architect*, the fabric base is the standard brown 48-inch sheeting. This sheeting is calendered mechanically, and the fuzz, lumps, and tight threads removed. The filling coat is then applied to one side, which penetrates to the centre of the fabric, leaving the interstices on the opposite side as a key for the paste. There is then added the equivalent of four coats of lead and oil. Uniformity in material and mechanical fabrication makes such a product absolutely dependable. There is also produced a material in which the coats of lead and oil are omitted and to which the decorator can apply any treat-

ment he desires, either in oil or water colour. Another product is prepared with linseed oil up to the last coat, and is ready for the finishing coat. These products are finished in a large number of plain tints and in a great number of designs, offering a very complete line from which suitable selections can be made if individual design is not required. The textural finish is made in smooth, egg-shell, or burlap effect, either dull-flat or gloss finish.

THE ROYAL SOCIETY OF BRITISH ARTISTS.

The Spring exhibition at Suffolk Street is quite of average interest, the absence of any very striking works being more than made up for by a general level of modest merit marred by not more than a couple of freaks.

The official members are all well represented. Mr. Frank Brangwyn, the president, contributes a boldly conceived watercolour, "The Platelayers" (175), in which the stalwart guardians of our safety on our iron roads are just sufficiently idealised. Perfectly recognisable, their labour is nevertheless invested with a blend of romance that transfigures the subject and exalts the capabilities of the sturdy workers to a well-deserved level but scarcely of such usefulness or continuous persistence. Mr. Harold Burke, the vice-president, sends a charming view of the "East Bay, Mentone" (53). Mr. Hely Smith, the hon. treasurer, has six pictures, including "Lengthening Shadows" (8), "Laid Up" (16), "Sky Overcast" (62), "Boisterous Weather" (142), "Windbound" (181), and "Low Tide on the Tor" (200), the last two well meriting the congratulations they will evoke. Mr. Francis Black, the secretary's "The Rapids" (Caer Rhin) (161), is another fine piece of work, and so is his "North Wales Farmstead" (164). The honorary auditors are well to the fore, both as regards number and quality. Mr. Charles Ince has seven hung, the most striking being "Fishing Boats, Concarneau, Finistère" (202). Mr. Morley, who has five, is perhaps at his best with "Something Stirring" (216).

Mr. Fred F. Footitt is equally successful with his two pictures of the capital, "Evening, London" (191), and "Morning, London" (206). Mr. A. H. Elphinstone, with "The Ensign" (180), has well scored with what is in some respects the best work in the exhibition. Two other attractive works are "September Morning" (192) and "A Fair Land" (201), by Mr. Harry W. Adams. Mr. J. W. Schofield is at his best in "The Village by Moonlight" (244), but his "The Semaphore, Dieppe Harbour" (229), well deserves mention.

Mr. W. E. Riley, F.R.I.B.A., is once again to be congratulated on his success, especially in regard to his "Ready for a Drive" (183), the expectation of which pleasantly enhances the charm of the lady's face. His watercolours, "Tilly-whim Caves" (52), "Durlston Bay" (57), and "Under South Down, Swanage" (120), are well up to his usual average. Mr. Riley also exhibits his "War Diploma Design for the London County Council" (116), which we hope will be used for the commemoration of the many brave men of that body's staff who have given their lives for their country.

Among other works of more or less merit we must mention "Summer Time on the Downs" (131) and "Harvesting" (166), by Mr. W. Luker, jun.; "Hare Tor, Dartmoor" (132), by Mr. C. E.

Hannaford; "In the Latin Chapel, Christ Church, Oxford" (139), by Mr. Walter S. S. Tyrwhitt; "Exmoor Ponies" (167), by Mr. A. Carruthers Gould; "Moonlight on the Stream" (173), by Mr. Christopher Williams; "Crossing the Ford" (178) and "September Sunset" (182), by Mr. John Muirhead; "At Close of Day when Lighted by the Moon" (186), by Mr. Alex. Maclean; "Sunset, St. Ives" (224), by Mr. R. Borlase Smart; "Brandon Bridge" (227), by Mr. Stafford Leake; "Winter's Day is Near a Close" (240), by Mr. Cyril Saunders Spackman, and "Judith" (234), by Mrs. Madeline Wells, the most ambitious and best hung of her six contributions; which, if it perhaps hardly satisfies the average conception of the vengeance of the patriot Hebrew widow on the lustful oppressor of her people, is vividly realistic, and sufficiently suggestive of the wish that some of the present-day rivals of Holofernes might be similarly disposed of by the women of Belgium and France they have murdered, as they will murder and outrage ours if they accomplish their desire to "punish" England.

PUERTA DEL SOL, TOLEDO.

(WITH AN ETCHING BY MR. CHARLES O. MURRAY, R.P.E.).

Crossing the ancient Bridge of Alcantara, and toiling, in zigzag, up the steep ascent, by the willing aid of the six mules that have brought your ramshackle omnibus from the station, you to-day approach Toledo, set grandly on its rocky peninsula, round which the rushing Tagus sweeps its muddy waters.

As you approach the town the boldly picturesque mass of the Puerta del Sol faces you, and you probably think how eminently romantic it will be to enter the labyrinthine city through its portal. Alas! the exigencies of modern traffic, even in old-world Toledo, have required a diversion of the roads round the base of the tower, and you prosaically ramble into the place where the walls have been breached, and the street is comparatively modern and prosaic.

The gateway is in good preservation, having been well cared for and at times restored, and is still open to other than wheeled traffic. It was built about 1100, shortly after the overthrow of the Moorish domination in the north of Spain, and is in what is known as the Mudejar style—the work of Moorish craftsmen—abundance of whom were left in the land after the debacle of the fighting forces of their countrymen. They seem to have been the only skilled workmen of the epoch, and the Christians were glad to employ them. So we find something that vaguely resembles a northern Mediaeval gateway, worked out (no doubt from a crude sketch supplied) by Moresco artists, with every detail in Moorish style, save that a figure of the Virgin with Christian emblems adorns the horseshoe entrance arch.

Fergusson has remarked that the Spaniard, though endowed with a great ambition to possess imposing works of architecture, seemed to have been denied by nature the faculty of producing them himself. True it is that he has called in the aid of other countries to a remarkable degree, with the result that the land is a veritable museum of specimens of sharply contrasting styles. The magnificent cathedrals that adorn the country from North to South show unmistakably French, Flemish, and, latterly, German influence, and when their names are known the architects were foreign. Spanish national character being chiefly shown in climatic

necessity for exclusion of too much sunshine. The Moorish remains may be classed as foreign; though the style was developed and elaborated in Spain, it was the work of a foreigner, and racially Oriental. The Moorish artist was by nature rather a decorator than an architect, as we understand the term. He planned no buildings, as far as we know, that had more than accidental external effect or significance.

The Moresco workmen that were left behind after the reconquest afford for us a subject of interesting thought. They seem to have been the only artists, and as they would be regarded as aliens if not captives, perhaps their proud conquerors affected to look down upon their skill, though glad to make use of it, and that must have retarded the growth of a more national style of architecture. There is no other evidence, however, that they were ill-treated, and we, who have been accustomed to look back upon those ancient days of rout and slaughter and religious hate with a comfortable sense of the superiority of later days, have lived, alas! to reconsider our conclusions.

CHAS. O. MURRAY.

COST OF BUILDING BEFORE AND AFTER THE WAR.*

BY ERNEST H. SELJOY (VISITOR).

The paper I have been asked to read to you this evening has for its object the consideration of prices of the various kinds of building and constructional work that obtained before the war, the prices of work during the war period, and the prices of work that will probably rule after the war is over.

The first two phases can be dealt with from experience and facts, but the last is mere conjecture, and brings the imagination into full play—a very necessary qualification in computing prices.

In considering prices it is necessary to take into account every kind of work, both that of a purely engineering character, the various architectural and building works, repairs, maintenance, and decoration, the prices of all of which differ very largely and are arrived at by a variety of methods.

The main factors governing prices are, of course, the cost of labour and the cost of materials. The cost of labour includes the necessary preparation of the materials, the adaptation for their respective positions, and the fixing and finishing in the work.

In pricing the cost of the labour the estimator must have had long and varied experience, as, in considering the relative cost of labour and materials, which is roughly about half and half, the cost of the former will seriously affect the price of the item.

The cost of the materials, whether raw materials, such as sand and ballast or manufactured materials, such as bricks, cement, steel, etc., can be ascertained by obtaining quotations from the merchants or manufacturers supplying such goods, and it is the task of the estimator to apply those prices to the various items.

In the computation of prices based on the cost of labour and materials it is sometimes asked whether the prices are correct, or merely based on some precedent or average.

An estimate of a valuation of any sort has been described as an approximation to the truth, and that approximation is most efficiently provided through experience. Many men have given up their entire lives to the compilation of prices, and very valuable data has been obtained; but the conditions of modern life change so rapidly that prices have continuously and regularly to be revised.

In my opinion the science of pricing—and it is undoubtedly a science—is yet in its infancy. There has been a common saying amongst surveyors ever since I can remember that prices can be "stretched." I think that saying must have arisen from the varied and extraordinary prices that are often put down for work by contractors, and which surveyors have to make use of for building up other prices in settling the final accounts.

Compare the tenders submitted for any kind of work, great and small: the variation in prices is considerable, showing the different views of the contractors competing for the work. I would undertake to say that if the various prices of the different tenders were compared in detail, the differences between them would be even more apparent than the differences in the amounts of the tenders, and not only that but the totals of each trade would differ largely. It cannot be argued that all these prices are correct, and some of them must, therefore, be wrong.

It can be readily understood that the rate of profit added might vary to some extent, and that the overhead charges are larger in some firms than others, but one would suppose that the prices would vary consistently to cover these contingencies. Office traditions, based on former costs, handed down from time to time, have no doubt something to do with this, but even these in the various offices must differ largely. The question of finance has also to be considered, and no doubt the work which has to be executed first is often priced high, and the finishings executed at a later date priced low, so as to facilitate the financing of the job. This method must be worked out most carefully on the average system, and will not necessarily apply in all cases.

The effect of good or bad office administration, and the efficient supervision of work at the site, must have a large influence on the prices for which work can be carried out, both with regard to the buying of materials and the cost of labour. If the materials are bought at the proper time and in the best markets no doubt large savings can be effected, and if a continuous and regular supply of materials is maintained at the job, in the first place, there is no waiting, and they can be handled and dealt with immediately on delivery, while no wastage occurs by having to shift them about afterwards with always the chance of damage. The quickest and most economical means of carrying out work at the site is by making arrangements ahead, and seeing that the general scheme is arranged at the commencement for the conduct of the whole job, and, above all, by the proper and accurate execution of the work in the first place, so that it has not to be done all over again.

The introduction of machinery has largely affected the cost of production, not only in the manufacture of certain materials used for buildings, but also in the actual carrying out of the work at the site. Compare the old method of carrying up bricks and mortar in hods with the new hoisting apparatus in use, or the driving of piles by hand-operated monkey with the steam hammer. I think that many more labour-saving appliances will come into vogue unless the cost of building operations is considerably reduced, and when once the prejudice against these innovations has been overcome improvements and developments will rapidly follow.

The methods adopted for many years with regard to scaffolding have not yet been altered, and although the tying together of scaffolding has been simplified, there remains much to be done in the way of reducing the cost of this item.

In addition to the prices of labour and materials employed in the works, there are also the statutory and temporary works necessary to comply with the various building regulations and requirements. The cost of these statutory and temporary works has to be separately allowed for or to be spread over the various items priced. Scaffolding, gables, hoisting appliances, temporary roads, offices, the supply of water, sheds for materials, and offices and sheds for the staff and workmen, not forgetting the necessary cooks and attendances for them, lighting, watching, fees to the various authorities, and a host of other contingencies, including the various insurances, have all to be taken into consideration and provided for. There is also the question of the general labourers who do not appear to be working in connection with any particular trade, but to be generally clearing up and attending upon, cutting away for, and making good after, everybody else, the cost of whose work cannot be very well allocated to any particular trade, but, in the aggregate, comes to a pretty large sum.

There is a large and variable allowance to be made for waste in all materials, including the increase in bulk of the earth excavated, especially if clay is met with, which has to be disposed of. In mentioning waste I do not only mean the waste arising in the preparation of the various materials, but also the actual decrease in bulk of certain materials in the process of mixing, particularly concrete.

Coming now to the various methods of obtaining prices for carrying out work, there are two generally adopted, the first by tender with or without competition, and the second by direct employment of labour and purchase of materials. The first method may be subdivided into two heads: (1) The lump sum tender, and (2) a schedule upon which the work executed is measured and priced.

With regard to the method of obtaining prices by tender, the lump sum estimate is of assistance in arranging the finance for the intended work, although the variations that usually occur may seriously affect the total cost when the same are measured and valued; the cost of these variations may, however, be closely approximated during the progress of the work, so that arrangements can be made from time to time to make the necessary adjustments with regard to finance. The principal benefit arising from this kind of tender is to enable people to cut their coat according to their cloth. Approximate estimates are all very well, but in many instances people require to know fairly closely what money they will be called upon to find, and if the tender received for the work is too high, or beyond the means of the building owner, modifications can be made to suit the requirements of the case before the work is commenced.

Where money is not of so much importance, or where work has to be carried out to meet legal requirements, or the exigencies of the public service, or where the work cannot be definitely determined upon at the outset, the schedule of prices is preferable. This method usually works out fairly well, provided the descriptions in the schedule of prices do not cover too many contingencies, and the prices for the various items can be properly estimated on given data, so that, if different circumstances arise, the prices can be modified accordingly.

With regard to the method of carrying out work by direct employment of labour and purchase of materials, the first objection to this is the fact that the contractor, who has made a life-long study of this particular form of work, and who has all the incentive of profit for the exercise of individual effort and enterprise, is eliminated. The best means of purchasing and employing plant, both for the particular job and afterwards, the purchasing of materials in the most economical way, and making the most of efficient administration and superintendence and employment of labour, will all fall on the shoulders of the amateur, and not the expert.

Of course, where Government departments or large public corporations are concerned, who are continually carrying out work by these means, the case is somewhat different; but even here, although by constant use they may be able to purchase largely and upon favourable terms, the individual touch is wanting, and whether the workman will get through as much work in this way as for a contractor is questionable. This can be ascertained only by results, and if the costs are carefully kept, these can be proved to a certain extent, but not entirely, as the value of the work done is largely affected by the methods employed.

Work can generally be done in a variety of ways, and the materials used differ largely in quality and price. If the work actually executed is measured and valued, a reliable comparison could be made of the two methods: this would entail a great deal of labour and expense, but it is only by this means that a really reliable comparison can be made. So many points crop up during the execution of the work, and so many variations are made, in method and material, that it is only by actually ascertaining what amount of work has been carried out that a correct value can be placed upon it.

(Continued on page 292.)

* Read at the Ordinary General Meeting of the Surveyors' Institution, held on Monday, April 8, 1918.

HOUSING OF THE WORKING CLASSES IN ENGLAND & WALES

CLASS
SCALE



SECTION AB

FRONT
for Elevations

Cubic Contents.

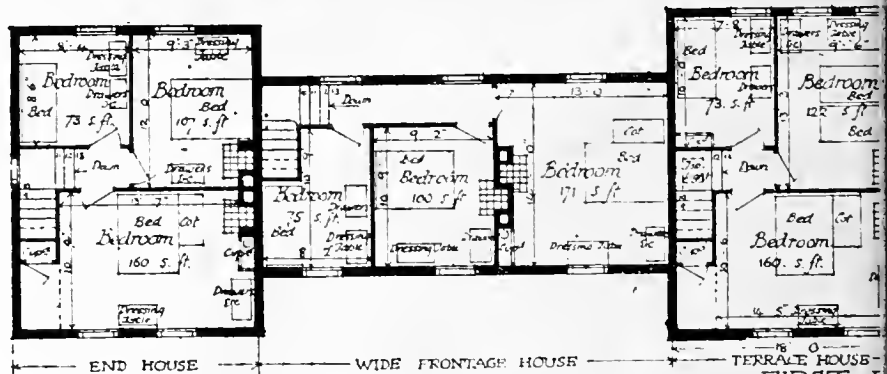
Measured from 1 foot
below floor to halfway up
roofs, including chimneys.
Hipped ends deducted

Terrace House 9778 cft
Wide frontage 9816 cft
End House 9148 cft

The superficial areas of
Rooms are given net after
deducting chimney breasts
& fixed cupboards



BACK



END HOUSE

WIDE FRONTAGE HOUSE

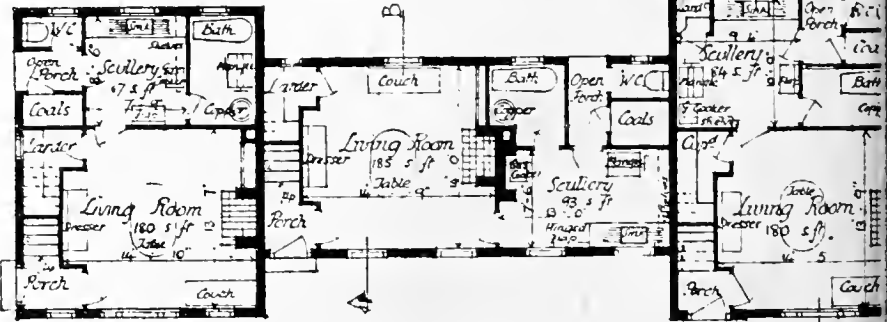
TERRACE HOUSE

FIRST FLOOR

Notes

The combined Bath Room
and wash House has the
following advantages :-

- (1) Provides an independent
Bath Room without interfering
with use of other Rooms.
- (2) As a Wash House, keeps
Scullery & other parts free
from steam etc., the bath
being available for soaking
clothes. Hinged lid on bath
forms a table top.



THIS HOUSE IS SO DESIGNED
AS TO BE SUITABLE FOR BUILDING
IN PAIRS OR TO FORM AN END
TO TERRACE HOUSES.

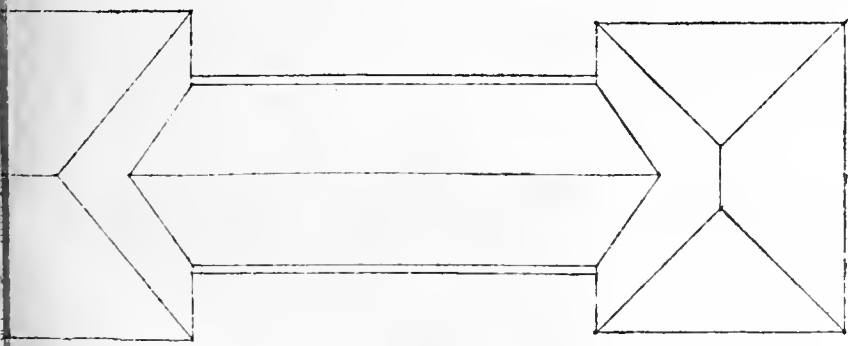
GROUND



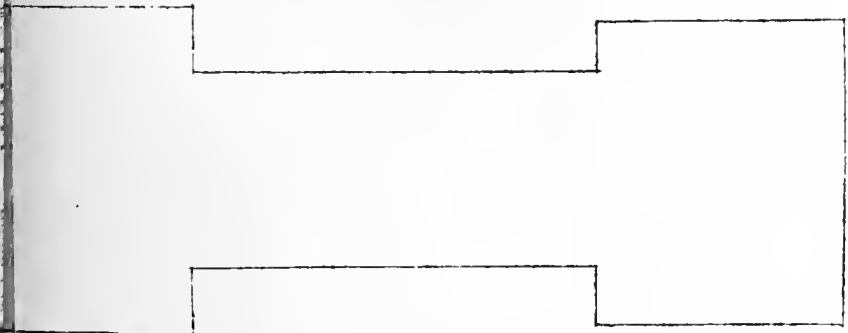
SECTION CD



SECTION CD



SECTION CD



SECTION CD

Materials

FOUNDATIONS Concrete footings 4' x 4' brick walls up to floor level

EXTERNAL WALLS half brick facing breeze concrete blocks 7" thick x 9" high x 3' 0" long

External face cement render 1" thick & skimmed with plaster inside

PRESENT PRICE of such blocks first complete & rough cast is about 50/- per sq. ft.

PARTY WALLS as above but without rough cast

INTERNAL WALLS & PARTITIONS furnace breeze concrete slabs 9" thick skimmed with plaster

CHIMNEY STACKS, breasts & flues of brickwork throughout

IN DISTRICTS where suitable & cheap facing bricks can be obtained, the external walls might be of brick 11" thick, & Party walls 9" thick

ROOFS Tiles or small 5" x 10" blue slates according to district

GROUND FLOORS, Living Rooms 6" P.C. concrete, trowelled surface, covered with thick brown linoleum or parquet down

Sculleries & Bath black tiles, 6" P.C. concrete & red quarry tiles or granolithic

1st & 2nd floors concrete & granolithic

FIRST FLOORS Reinforced concrete beams 4'-6" apart, cast on the ground & lifted into position, with 25 reinforced cast concrete slabs spanning from beam to beam, surface floated with cement & colored with linoleum

NOTE The use of timber is thus avoided

WINDOWS Double hung sashes standardised in 3 sizes

CARPENTERS' WORK Space saps & porlins

JOINERS' WORK External doors frames, & windows of red deal Internal doors etc. of spruce

HOT WATER SUPPLY Back boiler & Living Rm Range & 25 gal cylinder

SHEET No 1

Our Illustrations.

PUERTA DEL SOL (GATE OF THE SUN), TOLEDO, SPAIN.

On page 280 Mr. Charles O. Murray, R.P.E., has in his interesting article described this striking gateway, here shown by an admirable etching which he has lent us from the Exhibition of the Royal Society of Painter-Etchers, Pall Mall, for reproduction.

THE EDITH CAVELL MEMORIAL.

BY SIR GEORGE FRAMPTON, R.A.

We now are able to give some details of the memorial which will be raised as a tribute to Nurse Edith Cavell out of the funds subscribed by readers of the *Daily Telegraph*. Sir George Frampton, it will be remembered, undertook the work as a labour of love, and all the proceeds of the Fund go towards the cost of materials. The island site at the foot of St. Martin's Lane, where the memorial will stand, is, the artist considers, as fine as any in all London, and he has striven to make the work worthy of it. The figure of Edith Cavell will be in white marble, symbolic of her ideals. To-day this marble lies in the quarries of Carrara; the needs of the war prevent its reaching England. It will show her in the Nurse's cloak which became her, erect and fearless, with calm and resolute brows, a note of softness touching indefinitely the quiet dignity of the whole expression. The figure, which rises 8½ ft. above its plinth (to which a flight of shallow steps goes up), is the jewel. Behind rises a monument of granite. It is Cornish and silver grey, designed to embody strength and clear repose. The monument rises to a height of 40 ft. to 45 ft., and is cruciform: the cross is the Cross of Christianity. Out of this the artist shows another emblematic cross springing. This second cross is built up by a figure of Humanity, with a child upon its knees. The right hand of Humanity is raised as if to call upon those who would advance to the hurt of the child to stop: the left hand rests gently on its head. There is in the decoration of this figure also the suggestion of the Nurse's uniform, and Mercy and Healing fold their wings coifwise over the clear forehead. Upon the Cross of Christianity will be a tablet with two wreaths. The tablet will be inscribed "Brussels—Dawn," with the date on which Edith Cavell so fearlessly met her end. Under this, over the figure and at the foot of the cross, will be the single word "Humanity." "Fortitude," "Devotion," and "Sacrifice" inscribe the other panels. The words set down in brief the ideals for which the subject of the memorial lived and died; the other writing upon it is her name. At the back of the monument, under the word "Fortitude," is a strong lion. It crushes firmly beneath it, putting forth a proud and conscious strength, the Serpent of Envy, Spite, Malice, and Treachery. In this Britain's share in the conflict which divides and rends the world is more nearly symbolised, for the lion is the Lion of Britain.

HOUSING OF THE WORKING CLASSES—MANCHESTER AND LIVERPOOL AREAS—TYPE A.

Messrs. Briggs and Thornely, F.F.R.I.B.A., of Liverpool, won the first prize of £100 for their design submitted in this area for Type B, which we hope to illustrate shortly. It is very similar in treatment to the scheme represented by our double-page sheet given to-day, showing their excellent houses proposed for the living-room, scullery, and two bedroom tenements, as stipulated for Type A. All needful particulars are furnished by the marginal "notes" and specification on the illustrations, added to which is a schedule of the cubic contents, completing the information in explanation of the intended work. Sections A B and C D show how the ceilings come with the Mansard roofs over the intermediate cottages, which are referred to generally as "the terraced houses." This is sheet No. 1. No. 2 represents the Prize design for the parlour cottages. The C type houses occupy sheet 3, and the rural site dwellings are represented on sheet 4, which includes elevational treatments adapted to A B, and C.

COST OF BUILDING BEFORE AND AFTER THE WAR.

(Continued from page 281.)

There is a third method of carrying work out on a profit basis, either a percentage on the cost, or a limited profit on the work. My firm have acted as quantity surveyors on only two fairly large jobs carried out in this particular method; but the overhead charges, mechanical and other plant for use on the work, and the profit were tendered for in competition, and an accurate estimate made of the cost of the work at the commencement. Reports were made from time to time of the cost of the various alterations that occurred, also frequent careful comparisons were made of the actual cost of the work with the estimated cost, and I am bound to say that the result proved satisfactory.

Without expressing any opinion as to the wisdom of executing work in this way, the success, or otherwise, of the job would largely depend upon the integrity of the contractor for the work and whether he gave it his careful personal supervision.

The advantages of competitive work are an incentive to economy and a general tendency to efficiency both in employer and employed. Various expedients are tried and experiments made to reduce cost. A closer personal touch is maintained with the work by the contractor, and the cost in its different stages is more carefully followed. By this means not only can the actual cost of the work be carefully compared with the estimated cost, but reliable data be obtained for pricing future work.

Taking now the necessary qualifications of an efficient estimator or surveyor, to enable him to arrive at a great number of prices for all sorts and conditions of work, prices which he must build up entirely himself from acquired data, experience, and knowledge of cost for both materials and labour, I think it will be admitted that he must be a man of some attainments, with plenty of pluck to grapple with and overcome difficulties, avoid pitfalls, and not afraid of taking considerable risks and responsibility. The science of estimating must have been carefully studied for many years, and every opportunity taken for enlarging and improving his store of knowledge and data, not only from books, but from actual work.

In arriving at prices many considerations have to be taken into account, owing to the varying character of the work to be priced and the number of materials employed.

In the first instance there is the work of the purely engineering type; secondly, the general building work, repairs, and maintenance; and, thirdly, decoration of a more or less elaborate type; so that one day the estimator may be called upon to price an estimate for a bridge, dock, pier, or railway; the next day a large block of offices or flats, a public building, a private house, or a church; and the third day the elaborate finishings of a large club, a luxurious hotel, or the delicate intricacies of a lady's boudoir. I believe that one facetious counsel described a surveyor as "a gentleman who could value anything from a deep-sea shell to a planet." Whether or not he may be able to value either or both of these unusual commodities, if he be able to price all the estimates named (and there are many others) I think it must be admitted that he must have made the most of his time and experience.

It must not be supposed that all these various types of work are always estimated for by one man only, as a great deal of the work is highly specialised, but there are a great many estimators who are capable of and have to formulate prices for all these various works with the assistance of specialists.

Although a great many prices apply about equally to most jobs, there are others that most emphatically do not. A good estimator must be able to build up the price for nearly every item called for, both as regards labour and materials; but after obtaining the necessary quotations for the materials (if he can do so), the responsibility of estimating the cost of the labour generally falls entirely upon his shoulders.

In estimating for work, clear and concise particulars are required both in the way of

drawings and specifications, or of drawings, specification and bills of quantities.

When drawings and a specification only are supplied, a great deal of energy is wasted by each competitor having to take out some kind of detail particulars in order to arrive at a price on the information given. If, however, bills of quantities are also supplied, that process is done away with, and only pricing is necessary.

It is most essential to inspect carefully the drawings and to visit the site before sending in a tender, more especially when there are alterations to be carried out to existing buildings. The site and approaches have to be taken into consideration, and the method to be adopted of getting in materials and hoisting them to their required positions.

In all large contracts, particularly of the engineering type, the nature of the earth to be got out is a most important factor in arriving at a price, and, in most cases, the description of the excavation, whether taken from the specification, bills of quantities, or schedule of prices, has, like charity, to cover a multitude of sins. Firstly, there is the cost of the actual digging out of the earth, and its disposal; then the planking and strutting, timbering, and occasionally dams, to be taken into consideration; lastly, and not least, is the question of water that may be met with. A free hand is usually given to the contractor to carry out the work in any way he may see fit, but he is invariably called upon to take all risks. Now to arrive at a price for such excavation, whether in earth or under water, needs a thorough grip of the whole job, and usually necessitates devising a comprehensive scheme for carrying out the work, as well as the designing and the cost of much expensive plant.

The question of depth, where mechanical means of hoisting can be applied, does not affect the cost of the actual digging to any great extent, although the planking, strutting and timbering are largely increased, and all risks enhanced.

To imagine a price that can be put for such work, without long and intricate calculations, is a fallacy, and the estimator for such work must have a certain amount of engineering knowledge, or have the assistance of an engineer in arriving at his figures. It will, of course, be readily understood that he who can quickly obtain a grasp of the whole job, and can conceive and design the most expeditious and efficient means of carrying out this kind of work while estimating, will generally obtain the contract.

(To be continued.)

Following on the award of the Committee on Production granted to plumbers engaged on building constructional work, the operative plumbers in the Newcastle, Gateshead and district have, as a result of negotiations between the Master Plumbers' Association and the local Lodge of Operative Plumbers, been granted an advance of 1d. per hour together with the 12½ per cent.

The death is reported of Mr. Percy Oakden, Life Fellow and several times President of the Royal Victorian Institute of Architects, at the age of seventy-two. Born in Launceston, Tasmania, in 1845, after being educated at Horton College, Ross, in 1861 he was articled to the late Mr. Henry Hunter, of Hobart. At the expiry of his articles, at the age of twenty, he continued his studies in Great Britain in the office of the late Sir W. Digby Wyatt, and at the University College, London. Attending the lectures on architecture under Prof. T. Huxter Lewis, he obtained a First Certificate in the Fine Arts Course, and the Donaldson Silver Medal in the Construction Course, in the year that medal was initiated. Returning to his native land in 1868, he decided to commence practice in Victoria, settling at Ballarat, where he was appointed borough architect. His ambition, however, was Melbourne, so that in his thirtieth year, in 1874, there was established the firm of Terry and Oakden, which for so long a period was responsible for no inconsiderable portion of what was best in the city's current architecture. In the interim between Mr. Terry's decease and the formation of the present firm of Oakden and Ballantyne—seventeen years ago—there were the partnerships of Oakden, Addison, and Kemp, and Oakden and Kemp, in each of which the quality of the large output of work was maintained.



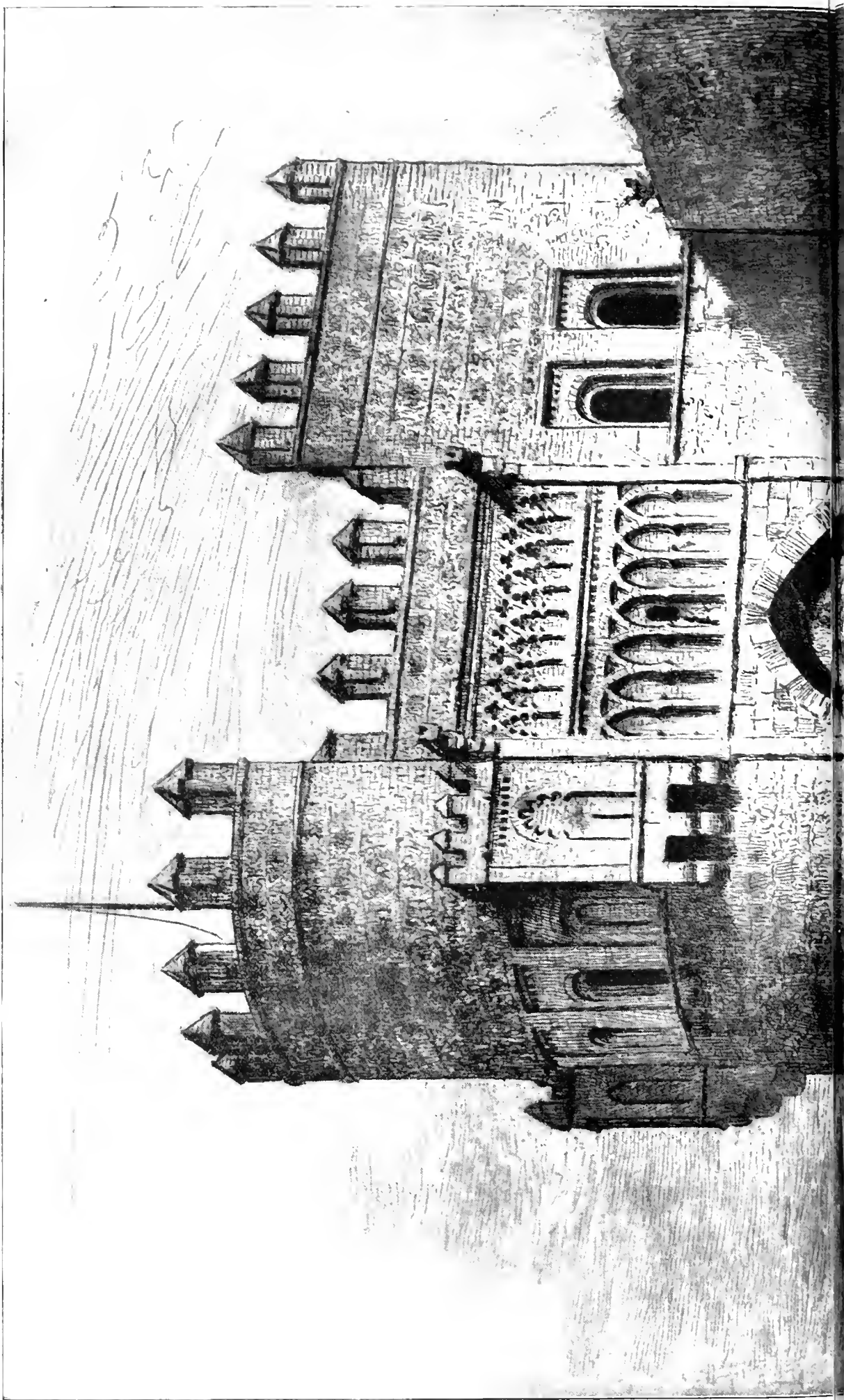
THE EDITH CAVELL MONUMENT, ST. MA
Front and Rear Views and Detail of "Humanity Prote

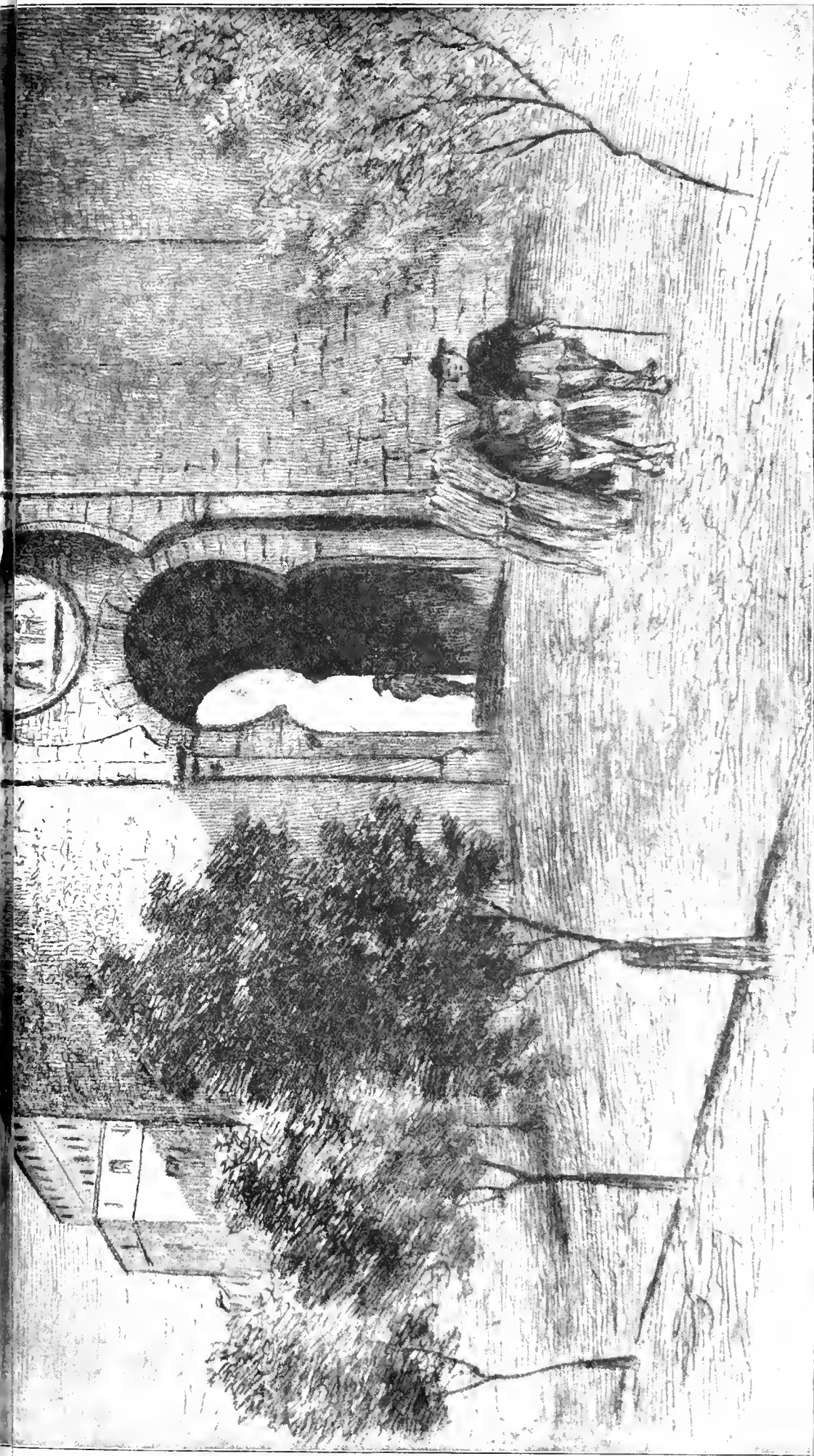


S LANE, TRAFALGAR SQUARE, LONDON.

"Small States."—Sir GEORGE FRAMPTON, R.A., Sculptor.

THE BUILDING NEWS, APRIL 10, 1918.





PUERTA DEL SOL (GATE OF THE SUN), TOLEDO, SPAIN.

An Etching by MR. CHARLES O. MURRAY, R.P.E.

From the Exhibition of the Royal Society of Painter Etchers, Pall Mall, 1915.

PUDLO
MAKES CEMENT WATERPROOF!

Walls next Rivers are the most difficult of all walls to keep dry.

A Pudloed cement rendering inside and outside the wall gives a perfect and permanently dry interior.

Many cellars with water around them have been constructed with Pudloed cement.

Pudloed cement is increasingly used for flat roofs, basements, stoke holes, baths and tanks.

Used by the British Government for over eight years.

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BRITISH! — And apart from patriotism, the best.

Manufactured by Kerner Greenwood & Co., Ltd.,
Ann's Square, King's Lynn

Gyningham

Our Office Table.

"Elements of Industrial Chemistry," by Allen Rogers (London: Constable and Co., Ltd., 10, Orange Street, W.C., 12s. 6d.), is a valuable abridgment, covering over 500 pages of an American "Manual of Industrial Chemistry," written by forty eminent specialists, and edited by the author, who is in charge of the Industrial Chemistry Department of the Pratt Institute, Brooklyn, N.Y. The twenty-seven chapters deal with most of the predominant industries, and will be found most useful by teachers and students.

At a meeting of the British Archaeological Association, held last Thursday, Dr. William Martin gave a lantern lecture on "The earliest pictorial representations of London and its buildings." He dealt particularly with those which antedated the wondrous panorama of Wynegaerde, about 1540, the only copy of which is in the Sutherland collection at Oxford. He said that many of these early pictures, now scattered among manuscripts and title-pages and in private libraries, might be brought together and made available to students and historians of Early London. Dr. Martin gave a series of views, beginning with those of Westminster Abbey and the Palace of Westminster, as seen in the Bayeux Tapestry, and the pictures in the Islip Roll, and concluded with that of the Coronation procession of Edward VI., which was contemporary with the panorama of Wynegaerde.

Sir Alfred Mond, First Commissioner of Works, made a statement last Thursday regarding the National War Museum which the Government have decided to erect. "The scheme we have in view," he said, "is of a magnificent character, and the Museum will be one of the most remarkable buildings in Europe. The final decision rests with the War Cabinet, but already important steps have been taken, and an announcement may shortly be expected with regard to the site of the Museum building. This has not yet been considered by the War Cabinet, but several recommendations have been made, and several proposed sites have been examined. The new building will be of huge dimensions, and within its walls will be a war collection the like of which the world has never seen. The organisation of this collection has already been commenced, and Committees are at work upon it representing the different branches of the Army, Navy, and Air Forces, munition departments, etc. No fewer than 8,000 valuable war mementoes have been presented, in addition to the great collection being secured by the Committees engaged. The special Committee appointed by the War Cabinet have gone into the scheme, and have now handed their report to the War Cabinet for final revision and decision." According to another report the Committee have suggested two sites for consideration—one in Hyde Park and the other on the south side of the Thames near the County Hall. The first would cost half a million sterling; the second nothing.

The Minister of Munitions has made an Order, to be known as the Building Bricks Control Order, 1918, prohibiting the sale or purchase or, except to carry out an existing contract in writing, the delivery or the taking delivery of any building bricks except under, or from the holder of, a permit. No permit is required for the sale, purchase, or delivery of any bricks to be used exclusively by the purchaser in the erection or carrying out of any separate and independent building or work not involving the use of more than 20,000 bricks, or in the completion of any building or work which does not involve the use of more than that number. Manufacturers of building bricks must comply with all directions regarding the transfer or delivery of bricks manufactured by them as shall from time to time be given by the Controller of Building Bricks, and every person manufacturing or having in his possession any stock of building bricks must furnish to the Controller such returns as the Controller may direct concerning output, stocks, deliveries, cost of production, prices, or any other information relating to such building

bricks. All applications for permits under the Order are to be made to the Controller of Building Bricks, Ministry of Munitions, Whitehall Place, London, S.W.1, and marked "Building Brick Permit." The Controller is Mr. H. Carter Pegg, F.R.I.B.A.

A note was read at the last meeting of the Newcastle Society of Antiquaries on the so-called Andra' Barton Rock, in Embleton Bay, Northumberland, by Sir James Balfour Paul. Sir James pointed out that the stone was submerged and only visible at exceptional low tides. The name on the stone connoted the name of Andrew Barton, who, with his brothers Robert and John, were among the most famous shipmasters in the reign of James IV. of Scotland. Andrew had many adventures, and was a resolute old sea dog. He fought valiantly against the Dutch, and eventually met his death in the Downs in August, 1511. If the inscription on the stone was authentic, it would be one of the most remarkable historic records they had. A surface rubbing of the stone, however, showed that the inscription was of quite modern origin. There was the date 1840 on another part of the stone, and it would appear that the inscription Andra' Barton belonged to the nineteenth century, and not to the sixteenth.

A War Cabinet Priority Committee has been set up to deal with building schemes which are urgently needed in certain industrial districts to make good the growing difficulties of housing. The Committee, we are told, is met at every turn by the paramount need of economy in the use of building labour and materials. It is strongly urged that great relief would be afforded by the postponement of the painting and redecoration of houses, which forms an important part of the national spring-cleaning. If householders resolved to forego what in many cases is regarded as an annual renovation, they would make available more of the scanty supply of labour for really necessary building work of national importance.

Mr. John Charlton, artist, of William Street, Knight-bridge, and Windsor Terrace, Newcastle-on-Tyne, left £13,327.

The late Mr. Frederic Chancellor, J.P., F.R.I.B.A., aged ninety-two, of Chelmsford, architect and surveyor, has left £38,732.

Mr. James Ross Anton, seventy-four, of Cromwell Road, S.W., a director of Jeyes' Sanitary Compound Company, has left £37,228.

Harold Woodman, thirty, formerly a master at Oswestry Art School, was fined £5 last Thursday at Oswestry, and was handed over to the military as an absentee. It was stated that he disappeared when called up in 1916, and was arrested on returning to Oswestry.

Sir John Wolfe Barry, K.C.B., of Chelsea Embankment, S.W., and Queen Anne's Gate, Westminster, engineer of the Tower Bridge, the Immingham Dock, and other works of construction, who died on January 22, aged 81 years, left £278,362, of which £225,033 is net personality.

To consider a memorial to old boys of King's School, Canterbury, fallen in the war a meeting was held on April 4 at Caxton Hall, Westminster. It was resolved that the memorial should take the form partly of a visible monument in the school or its chapel in Canterbury Cathedral, and partly of educational assistance to dependent relatives of old King's scholars.

At a meeting of Old Haileyburians held at the Goldsmiths' Hall on January 9, it was resolved to raise a sum of £50,000 for the purposes of educating at Haileybury the sons of Old Haileyburians who have fallen in the war and of building a memorial hall to take the place of the existing dining hall. The bursar of the college has been appointed treasurer of the fund. At a meeting at Caxton Hall, Westminster, last Thursday, the resolution was endorsed.

Mr. W. Woodward, hon. architect and surveyor to the Metropolitan Public Gardens Association, submitted to the monthly meeting of the association last Thursday plans of his proposed war memorial scheme, which includes the erection of a memorial chapel on the south side of Old Palace Yard, Westminster, and the provision of a public garden in connection with it on the west side of Abingdon Street. Consideration of the proposal was adjourned to await a more settled period.

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TENDERS.

*Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender: it adds to the value of the information.

H.M. OFFICE OF WORKS.—For Building Works—Armfields Hotel, Metropolitan Water Board, alterations, etc., W. T. Maddison, Canning Town, E.; Campden Hill maternity centre, erection of a temporary building, Higgs and Hill, Ltd., South Lambeth, S.W.; Graigend Park, Liberton, Neuraesthesia Hospital, Scotland, Ministry of Pensions, alterations and extensions, J. Millar and Sons, Ltd., Edinburgh; East Greenwich, H.M. fuel research station, supply and erection of steelwork, R. Moreland and Son, Ltd., London, E.C.; Netley British Red Cross Hospital, erection of phthisis building, J. Douglas, Southampton; new science museum, South Kensington (adaptation), joinery, W. H. T. Kelland and Sons, Ltd., Hornsey Rise, N.; Plymouth grain stores, erection of an additional shed, Wakeham Bros., Plymouth; Sheffield, Director of Inspection of Steel, Townhead Street, alterations and additions, Abbott and Baunister, Ltd., Sheffield; Wolverhampton employment exchange, alterations to premises, E. Crowder, Birmingham.

OTTERY ST. MARY (DEVON).—For erecting a two-stall stable and loft, for the Urban District Council:—

Stuckey and Sons £132 13 0
(Accepted.)

ROMFORD.—For the alteration and reconstruction of flues of No. 1 Cornish boiler at their public baths, Mawneys Road, Romford, for the Romford Urban District Council:—

Francis, A. E. 6, Eastfield Road,
Peterborough (accepted) .. £118 0 0

LIST OF TENDERS OPEN.

BUILDINGS.

April 13.—Excavator, brick, carpenter, joiner, plumber and plaster work in connection with erection of orthopaedic curative workshops at the Edinburgh War Hospital.—For the Edinburgh District Board of Control.—R. T. French, Clerk and Treasurer, Chambers, Castle Terrace, Edinburgh.

April 17.—Labour and materials required in the erection of research laboratories within the urban district of Radcliffe.—Specifications and schedules from C. J. Lomax, M.I.C.E., M.Coms.E., 37, Cross Street, Manchester.

COMPETITIONS.

June 7.—For designs of cottages and "living-in quarters," for the National Eisteddfod of Wales. Open to any British subject. Premiums of £50 each for best designs in each of three classes. Premium of £10 for best design for "living-in quarters." Full particulars and conditions will be found on p. 27 of our issue of April 5 last. Designs to be sent in on or before June 7 to the Secretary of the Eisteddfod, Philip Thomas, Glynifer, Neath.

FENCING.

April 16.—Erection of a creosoted post-and-rail fence and two V wicket gates, and making a ballast path from Rowlandson Terrace to cemetery gates, at The Broom, Ferry Hill.—R. Willey, Clerk, Town Hall, Ferry Hill.

PAINTING.

April 15.—Painting at the Children's Homes in Hartington Road, Stockton-on-Tees.—For the Guardians of Stockton Union.—J. Bell, Clerk, Stockton-on-Tees.

April 17.—Painting the bascule opening bridge over the Walney Channel (1,123 feet between abutments), Barrow-in-Furness.—For the Corporation.—L. Hewlett, Town Clerk.

April 17.—Painting and repairs at the Brook Ambulance Station, Shooter's Hill, S.E.—For the Metropolitan Asylums Board.—D. Mann, Clerk.

April 18.—Painting outside twelve county police stations.—For the Durham County Council.—County Surveyor's Office, Shire Hall, Durham.

The Canada Cement Company report a large increase in revenue for 1917. After writing off \$2,190,616 for depreciation and special equipment, the net earnings totalled \$2,861,246, a gain of \$642,398, and, after providing for fixed charges, dividends, and reserves, the sum of \$484,181 is carried forward.

THE BUILDING NEWS

AND ENGINEERING JOURNAL.

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OUR ILLUSTRATIONS.

The Edith Cavell Memorial, St. Martin's Lane, Trafalgar Square. The British Lion. Sir George Frampton, R.A., Architect.	
Prize Designs for the War Memorial Plaque to the Fallen. £100 prize, Mr. Charles Wheeler; £50	

Strand, W.C.2

prizes, Messrs. William McMillan G. D. Macdougald, and Miss H. F. Whiteside (models numbered 3 to 6)

New Rood Screen to be erected in St. John's Church, Peterborough. Mr. Cecil G. Hare, Architect.

Housing of the Working Classes. Design Class "C." Manchester and Liverpool areas. Plans, elevations, and sections. Messrs. Briggs and Thornely, F.F.R.I.B.A., Architects.

Currente Calamo.

An exhibition of some fifty to sixty water-colour sketches from abroad, and including monochrome perspectives of modern buildings, by the late Captain Charles Gascoyne, is now on view at the Architectural Association in Bedford Square. Among the larger examples of his draughtsmanship displayed are views of Sir Aston Webb's new Government offices, Upper Merrion Street, Dublin, and a bird's-eye of the same architect's scheme for the City of Ottawa Parliament Buildings. Smaller drawings show John Belcher's "Morden House," Blackheath, and the United Service Club, by Sir Aston Webb, when its attic was added, in Waterloo Place, S.W. Of church work some fine perspectives are shown of Mr. G. Cecil Hare's Cathedral at San Francisco; also the comparatively small R.C. Church at Northfleet, with a dominating tower by Mr. Giles Gilbert Scott. Most of these have been reproduced by us, as well as some of the beautiful studies from Belgium, Normandy, and Spain. They constitute the chief attraction of the exhibition, showing as the majority do the direct and forcible colouring distinguishing the late Charles Gascoyne's work, which also almost invariably is marked by a clear atmospheric effect being handled in broad washes, free from trivial details. It is a pity that so many of these exhibits have not been identified, the artist having often failed to name his sketches. The arched street scene from Tangier combines the warmth of contrasts with the value of subdued colours. We understand a few of these pictures can be purchased, and we especially noticed the ramparts of Seville, outstanding Mount St. Michelle, and the famous steeple at Albi, with other excellent examples of simple and bold architectural compositions all dexterously shown.

Invited by the Local Government Board to suggest some practical means for bringing home to working-class tenants their financial responsibilities in connection with the payment of rates, the Council of the Surveyors' Institution have submitted a scheme modelled on the Scottish precedent in conjunction with the principle embodied in Section 1 (iv.) of the Increase of Rent and Mortgage Interest (War Restrictions) Act, 1915, by which all existing

statutory provisions as to the rating of owners, and as to the payment of rates, whether premises are fully occupied or not, known as compounding, would be repealed. The owner of a house to be responsible for all rates imposed in respect thereof, the same not to be recoverable from the occupier, but from the owner, who shall pay for the whole period of the rate. If for any period rent or other consideration shall not be received in respect of a house, or part of a house, for which rates have been paid, the owner to be entitled to claim repayment in respect of periods during which the house was not let, or for which though let no rent was received (Section 7 (3)). Owners to be entitled to a commission, to cover cost of collection, of 5 per cent. on the amounts levied by the rating authorities on the houses, and for which the owners are liable to pay in lieu of the occupiers. The dwellings to which the scheme applies to be limited to those coming within the provisions of Section 14 of the Housing, Town Planning, etc., Act, 1909, and to all cases where house or part of a house is let for a period of less than a quarter of a year irrespective of the rateable value. Instead of separate demand notes, saving in labour and printing to be effected by service upon owner of demands in summary form. At the commencement of a tenancy of any property to which the scheme referred, the rent card or rent book to show clearly on a prescribed form to be supplied by the rating authority how much of the inclusive weekly payment was in respect of rates (not regarding the commission allowed for collection), what the payment for rates represented yearly in respect of the hereditament in question, and briefly the objects for which the money was raised. Separate lettings to be subject to separate assessments. Any variation in the amount of the rates to be recoverable from or repayable to the tenant in amounts of 6d. or its multiple, and for the purpose of recovery or distraint to be treated as rent. The suggested scheme is a business-like one. It is prefaced by a useful resumé of the past practice in London during the last century, and the text of the Scottish Act of 1911 is appended.

We cannot help wishing that the committee which the Royal Academy has appointed to advise with regard to war

memorials had been constituted earlier, and that its counsel had been sought by the Government before the recent competition was arranged for the memorial plaque which is to be presented to the next of kin to members of the forces who have fallen in the great struggle. To say the least, a comparison of the rest of the premiated designs which we illustrate this week with that by Sir George Frampton of the Lion which forms part of the Cavell memorial, will suggest to most readers the conviction that with such resources of genuine genius and competent appreciation of the really suitable form such a memorial as the war plaque might have taken there was little need of a competition at all, or the expenditure of £500 in premiums, or putting competitors to the trouble of submitting models, the great majority of which were, of course, as unbefitting as they were commonplace. We are reasonably sure no competent committee, such as that now appointed by the Royal Academy, would have hesitated as to the right course to pursue; but, remembering our recent fruitless, though protracted, travels in the endeavour to inspect the 800 and more models submitted, which we knew were at the National Gallery, it is, perhaps, doubtful if its advice would have been heeded. Inquiries at the National Gallery resulted in a reference to the authorities at South Kensington, whence we were sent off to the War Office, where we were referred back to South Kensington, and at last, on our assurance that we had already been there fruitlessly, were informed that it was not decided whether any public exhibition of the models would be held at all. The designs we have illustrated are from photographs since courteously sent us by the authorities, for which we are, of course, grateful, though still uncertain why the usual opportunity of criticism of the competition as a whole was withheld.

The Building Materials Supply Committee of the Ministry of Reconstruction, which is inquiring into the extent of the probable demand for building material for all purposes likely to arise during the transition period, and the extent of the available supply and form of such material, have issued forms of inquiry to architects which must be filled in and returned to the Secretary, Capt. B. M. Cutbush, not

later than May 6. The wish of the committee is to accelerate the complete restoration of the building trade, and it is desirable that all architects should give the information asked for promptly, and any reader who has not received a form of inquiry should apply for one at once to the Secretary of the Committee, at 6a, Dean's Yard, Westminster, S.W.1. The form of inquiry, which has been tabulated after consultation with the R.I.B.A., is fairly comprehensive, and its despatch is the first, and a very welcome indication of any real desire or intention of the Government to do something likely to end the stagnation of building and the allied industries which, commencing with the blow aimed at them by Mr. Lloyd George's disastrous Finance Acts of 1909-1910, has culminated during the war into a condition of unparalleled disaster.

A correspondent, who writes to us from 14, Featherstone Buildings, London, W.C.1, but omits to sign his name, suggests that memorial chapels, church windows, etc., are doubtless creditable marks of gratitude to our fallen heroes, but asks what benefit they are to men who have fought so bravely for King and country. He proposes that memorial bungalows or cottages should be erected on plots of freehold land purchased and built by private subscription, and that one or more should be erected in every parish throughout the kingdom, and presented to sailors or soldiers and their families for their occupation, rent and rate free, and without any restrictions for their and their children's lives. Probably, if a house-to-house collection were made, every man and woman would gladly subscribe a small amount, and others would help with building materials and pieces of furniture. Possibly landowners would give, or sell cheaply, plots of land of not less than 10 rods (being 16 plots to an acre), architects, builders, workmen and others would be willing to assist, and Boy Scouts could do a lot of useful work. Builders' merchants, florists, furniture dealers, and other tradesmen might offer to sell goods on very favourable terms. Strong committees should at once be formed to carry out this suggestion, composed of all classes and both sexes, whose services should be honorary, and someone would no doubt be willing to offer free rooms for the meetings, and the cost of clerical work should be kept as low as possible. Possibly wealthy people might wish to build and furnish such buildings in memory of dear ones they have lost in this awful war. Officers and others, who in offering their services have lost remunerative occupations, should not be forgotten. The idea is certainly worth consideration. We would only add that the house should bear the name of the patriot commemorated, and that some modest but enduring record of his devotion should be affixed to its walls.

Slackers seem to have their friends on Government work in America as well as here. According to the *Analyst*, one of the country's foremost engineers is great on production, but short on tact. He was

driving a piece of Government work ahead on a twenty-four-hour schedule when an inspector from Washington, who earns less in a year than the engineer is paid each month, decided that he was being slighted. He started giving orders which conflicted with those of the contractor. The engineer turned aside from his work for about thirty seconds to tell the inspector what he thought of him. That would have been all right on a private job, but the Government employee had influence, and he hastened to Washington to use it. Since then the work has lagged, and it has taken most of the engineer's time to answer the charges that were lodged against him by the inspector. More than one architect here, we fancy, has had similar experiences!

Any reader in need of a new hat—we want one badly enough, but will not spoil still shabbier friends, who may be glad of the easy chance offered—should send at once to Messrs. Lewis Berger and Co., Ltd., at Homerton, E.9, for the last issue of *Berger's Mercury*. They will, at any rate, get an hour or two's distraction from present troubles. By the way, those experimenting with Mr. H. Kemp Prossor's "Curative Colours" will be glad to know that for hospital use only a special licence has been granted by the Ministry of Munitions. Orders should be addressed to Mr. H. Kemp Prossor, care of the Editor of *Berger's Mercury*, at Berger's. Just a final reminder, too, that the spray fluid that will really stop disease in the potatoes you are growing—or if you are not, then you ought to be—is Berger's "Bergicide," which is being patriotically sold at a price that out-distances all others—many of which are worthless.

BUILDING SOCIETIES.

The Reports of the Chief Registrar of Friendly Societies are in several respects the most businesslike of the many returns published, and always bear evidence of real, but not vexatious, control and beneficial insistence on compliance with the law. The latest, just published, which can be obtained through any bookseller, or direct from any of the Government Stationery Offices, for five shillings, deals with Building Societies for the year ending December 31, 1916, and is of considerable value to all interested in the provision and control of a means of investment in the most solid and satisfactory investment of all, namely, that which has the home for its security round which are centred all the comforts and consolations that reward honest thrift.

The membership of Building Societies, amounting at December 31, 1916, to 628,285, is substantially in excess of the last pre-war figure. It will be observed that forty-three large societies possess 46.5 per cent. of the total membership, and that twenty-six of these show increases during 1916.

The receipts decreased during the year by £902,000, or 4.1 per cent., but this decrease is less than that experienced during the previous year. In England the South Midland District recorded a rise, and in Scotland the North and South Districts.

Assets have been reduced during the year by about £580,000, but large liquid funds have been accumulated, the reduc-

tion in the total assets being exhibited only in the balance due on mortgage securities, which is the natural consequence of the falling off in advances. It must be mentioned, however, that of the twenty largest societies, two—one in Yorkshire and one in London—show increases in the amount of money held on mortgage.

On the whole, there does not appear to have been a great demand for the withdrawal of shares or deposits. The amount due to shareholders has risen since 1913 by over £1,000,000, the increase during 1916 being over £275,000. The amount due to depositors and other creditors has fallen since 1913 by £1,600,000. This figure probably does not take into account any withdrawals in anticipation of the War Loan raised early in 1917. The net balance of profit and reserve continues to increase, the amount added during 1916 being £74,000.

A brief summary of statistics for the year 1896 to 1916 is given on pages xv. and xvi. of the Report, as the year 1916 is the termination of two decades since statistics became fully available for Building Societies. The most noticeable feature, perhaps, is due to the introduction of the statutory provision excluding properties upwards of twelve months in possession and mortgages where repayments are upwards of twelve months in arrear, for the calculation of the limits of borrowing powers, and requiring particulars to be given separately in the schedule. This appears to have acted beneficially by causing a reduction of such properties and mortgages. Thus, in 1896 the properties in possession amounted to about £6,000,000, or 13.8 per cent. of the total mortgages, whereas in 1906 the amount was about £2,500,000, or 4.4 per cent.

There was a decrease of 5,600 in the membership of societies in the United Kingdom during 1916. The actual decrease was greater by about 2,000, as it was found that preference shareholders had not been previously returned as members by a society in Northumberland. The actual loss is, however, only 1.2 per cent. of the actual 1915 membership, and still leaves the membership substantially in excess of the last pre-war figure, 617,403 in 1913, in spite of the fact that the latter did not include 7,800 preference shareholders brought into account during 1915 and 1916.

There was a further decline, to the extent of 600, or about 2 per cent., in the membership of societies in Scotland, and Wales also experienced a further falling off of about 2 per cent. In these two countries membership has been declining for some years, except for a partial recovery in 1914 in Scotland.

The membership of societies in Ireland is practically the same as in 1915, and is about 350 above the 1913 figure. The recovery which took place during 1914 and 1915, following a decline for some years, has thus been well maintained.

In England the Northern and North Midland were again the only districts to record increases, the actual gain in the former, after allowing for the 2,000 preference shareholders referred to above, being nearly 1,200. The West Riding of Yorkshire gained nearly 3,300, of which 2,700 were accounted for by three societies, the Halifax Permanent Building Society alone recording an addition of 1,300 to its membership. In the North Midland district Leicestershire, Northamptonshire, and Worcestershire were the only counties to record increases, and those increases were comparatively small.

Forty-three societies, of which forty-one are situated in England, one in Wales,

and one in Scotland, had a membership of 2,500 or over. Twenty-three of these societies had over 5,000 members, including eight with over 10,000. The Halifax Permanent Benefit Society, with nearly 31,000 members, has considerably more than twice as many as any other society in the kingdom. These forty-three large societies possessed 46½ per cent. of the total membership; nearly 52 per cent. of the total amount outstanding on mortgage securities; and were again to be credited with more than half the total amount advanced during the year on mortgages. Their membership was 292,000 in 1916, as against 290,000 in 1915. Forty-two societies were returned as having over 2,500 members in 1915. The increase to forty-three in 1916 is due to the inclusion of one society which had previously not returned about 2,000 preference shareholders as members. Of the forty-two societies referred to, twenty-five show increases, sixteen decreases, and one shows no change.

In spite of the reduction in membership for the United Kingdom, to which attention has been drawn above, a further increase in the average membership of societies is to be noticed; the increase being greatest in the North Midland district of England. The societies in this district have now an average membership of nearly 800, or eight times as many as the district having the lowest average—Munster.

It is gratifying as evidence of confidence in the Building Society movement to note that on the whole there does not appear to have been such a great demand for withdrawal of shares and deposits since the outbreak of the war as might have been anticipated. The amount due to shareholders has, in fact, risen since 1913 by over one million pounds, the increase during 1916 being over £275,000, while the amount due to depositors and other creditors has fallen since 1913 by about £1,600,000 only. In view of the circumstances the latter figure does not appear to be large, although it must be remembered that the effect on withdrawals of the War Loan raised early in 1917 has probably yet to be taken into account. Of the £1,600,000 mentioned above, about £1,000,000 was accounted for in 1916 as against half that amount in 1915.

In the net balance of profit and reserve there was a further increase during 1916 amounting to £74,000, which in view of the diminution of business, must be considered satisfactory.

That there appears to be considerable need for the wholesome supervision of the accounts of some of the societies is evident from the comments on some of the balance-sheets submitted, as mentioned on p. xvii., and from the attitude taken by some auditors, especially with regard to defalcations, which, as the Registrar remarks, he is unable to regard as "duly vouched" or "in accordance with law." In the case of one society which had suffered defalcations amounting in the whole to £10,000, and in those of others—no less than 362—which have had to be dealt with by the legal branch of the Registry, there seems to have been more or less ignorance or disregard by the officials of their duties, which is a little disquieting. It is, perhaps, as well to remind all members of Building Societies that by Section 5 (c) of the Building Societies Act of 1894 the Registrar is empowered, with the consent of the Secretary of State, to appoint an inspector to examine into and report upon the affairs of a society where evidence is furnished by statutory declaration of not less than three of its members of facts which, in the opinion of the Registrar, call for investigation.

ROYAL SOCIETY OF PAINTERS IN WATER-COLOURS.

One misses the contributions of not a few of the members of the R.S.P.W.C., but the fertility of others helps to make a very decent total of 193 exhibits, chiefly, as usual, landscapes.

Mr. Alfred Parsons, R.A., the President, has three of his always charming floral subjects (96, 114, and 120) and a view of Wells Cathedral (137). Mr. J. Walter West, R.W.S., the Vice-President, sends two welcome Italian scenes, "Haytime in Lombardy" (38) and "April in Italy" (110). Mr. Arthur Hopkins, the Treasurer, has seven, including his very pleasing "Birch Trees in Autumn" (62). Of his eight, Mr. Robert W. Allan scores best, perhaps, with his "Damascus Gate at Jerusalem" (29) and "Chartres, France" (105). Mrs. Allingham contributes two of her characteristically cosy cottages, one in Kent (50) and the other in Berkshire. Mr. Robert Anning Bell, A.R.A., is well represented by his "Dance of the Reapers before Juno, Ceres, and Iris—'The Tempest'" (118). Mr. S. J. Lamorna Birch still finds inspiration in his never-tiring bits of Cornish scenery, which make up the majority of his eight exhibits. Mr. J. C. Dolman is at his best with "The Valley of Withead from Ditchling Beacon" (9). Mr. Albert Goodwin leads well off with "Wells" (1). Of his other five "Benares" (156) will not be overlooked. Mr. W. Matthew Hale has five hung, all good; the best, perhaps, is his "Sunset at Ronda" (17), in which the rosy mountain ranges well contrast with the foreground. Mr. Henry Henshall is happily successful with all five, but most so with "Gran" (102) and "Her Only Friend" (112).

Mr. Byam Shaw's only contribution, "Kensington, 1820" (130), is a well-conceived reminiscence of the habitués of the Royal Borough in late Georgian times. Mr. D. Murray Smith is, as usual, well represented, especially by his "Valley of the Colne" (54) and "An Old Sand Pit, Glamorganshire" (99). Mr. W. Russell Flint scores best with his "The Gareloch from Shandon—Winter" (69). Of his three, Mr. James Paterson's "Old Flemish Houses, Dedham" (155), is architecturally interesting.

We can only spare space to mention Mr. Colin B. Phillips's "In Borrowdale, Cumberland—Thunderstorm Gathering" (79), Mr. Henry S. Tuke's three seascapes (91, 106, and 107), Mr. Thomas M. Rooke's "Westminster Abbey" (138), and "Piers of the Dome" (180), all good. The exhibition remains open till June 30.

Captain A. R. Maw, Manchester Regiment (son of Mr. Walter Maw, solicitor, of the firm of Messrs. Ascroft, Maw, and Shimeld, Oldham), was wounded on March 22 in France. He is an architect, and was formerly with the firm of Messrs. Taylor and Simister, Oldham.

The Rochester Town Council has received £9,000 from the executors of the late Mr. Thomas Hellyar Foord for acquiring the freehold of Eastgate House, in the city, now used as a public museum, and for providing a building for the reception of the furniture and articles of vertu bequeathed to Rochester by him. Eastgate House was the original of the "Nun's House," described in Charles Dickens's unfinished book, "Edwin Drood."

Captain John L. Trollope, Royal Flying Corps, who is reported missing, was the hero recently of the feat of shooting down six enemy machines in a single day, thus eclipsing the record of five set up by the late Captain Ball, V.C. Captain Trollope was last seen fighting hard with enemy machines, and it is hoped he made a safe landing, and is now a prisoner. He is the son of Mr. H. W. Trollope (of Messrs. Geo. Trollope and Sons), who died last year. His cousins, Captain W. K. Trollope and Captain C. H. Trollope, were killed last year whilst flying.

Our Illustrations.

THE EDITH CAVELL MEMORIAL—THE BRITISH LION.

Last Wednesday we illustrated two elevational views and a detail of "Humanity Protecting Small States," the crowning centrepiece of this splendid monument, which is to be erected at the end of St. Martin's Lane, near Trafalgar Square, from the designs of Sir George Frampton, R.A. To-day we reproduce a fine photograph of the lion which so fittingly enriches the rear face of the cross, crushing under foot the "Envy," "Malice," "Spite," and "Treachery."

PRIZE DESIGNS FOR WAR MEMORIAL PLAQUES.

On March 27 last we illustrated the £253 first prize design for the Memorial Plaque in bronze which the Government will present to the next-of-kin of members of His Majesty's Forces who have fallen in the war. The author of this design is Mr. E. Carter Preston, of Liverpool, and his model has been adopted by the authorities. To-day we publish a sheet of reproductions of photographs of all the other six prize plaque designs. Nos. 1 and 2 are the work of "Moolie"—Mr. Charles Wheeler, of No. 2, Justice Walk, Chelsea, who received the second prize, value £100. Nos. 3 and 4 are by "Sculpenco"—Mr. William McMillan, 14a, Cheyne Row, Chelsea. No. 5 by "Weary"—Sapper G. D. Macdougald (207290), Beaconsfield, Bucks, and No. 6 Miss H. F. Whiteside, Kensington Studios, Kelso Place, W. 8. These several competitors, Nos. 3 to 6, were each severally awarded £50. An exhibition of the prize models is announced to be held at the Victoria and Albert Museum, South Kensington, the gallery being open free to the public.

NEW ROOD SCREEN TO BE ERECTED IN ST. JOHN'S CHURCH, PETERBOROUGH.

This double-page is one drawing of a series illustrative of some rich church work designed by the architect, Mr. Cecil G. Hare, for St. John's Church, Peterborough. This is to be erected in oak as part of a scheme for furnishing the building in a worthy manner. We shall publish illustrations of the organ and stalls, with sanctuary panelling, at an early date.

HOUSING OF THE WORKING CLASSES—DESIGN CLASS C, MANCHESTER AND LIVERPOOL URBAN AREAS.

We gave last week the scheme for Class A type, submitted for the Lancashire Districts by Messrs. Briggs and Thornely, of Liverpool, the winners of the first prize for the B type of urban tenements. To-day we illustrate the same architects' design for Class C, which provides a living room, parlour, scullery, etc., and two bedrooms. These cottages had to be contrived as two-storey dwellings. The bath-rooms are on the upper floor. The pitch of all the rooms throughout is 8 feet from floor to ceiling. The smallest sleeping apartment at least had to provide 70 feet super. The central pair of houses have a fixed frontage of 18 feet each and are lit from back and front, therefore adaptable to a long or short terrace, also for semi-detached blocks. The same alternative is applicable to the end cottages, as here set out on the right and left flanks of the group. The general outline of this ground-floor plan, taken as a whole, necessarily has more or less considerable projections at the rear. In the competition conditions (Rule 14) all such extensions were stipulated to be "minimised as much as possible." The plan C shows rather more projections at the back than appear in Messrs. Briggs and Thornely's £100 prize plan B, and these set-offs are much greater than those which occur in the arrangement of the A variety, reproduced among our illustrations on the 10th inst. When the external walls are faced with brick the authors specify 11-inch hollow walling and 9-inch for party walls. The roofs are intended to be covered with pantiles. Wooden sashes of three standard sizes are proposed for the windows, to serve as repeats. The internal divisional walls to be executed as 3-inch concrete slab partitions.

HOUSING OF THE WORKING CLASSES
IN ENGLAND & WALES

CLASS

FT 10 5 0



SECTION C D

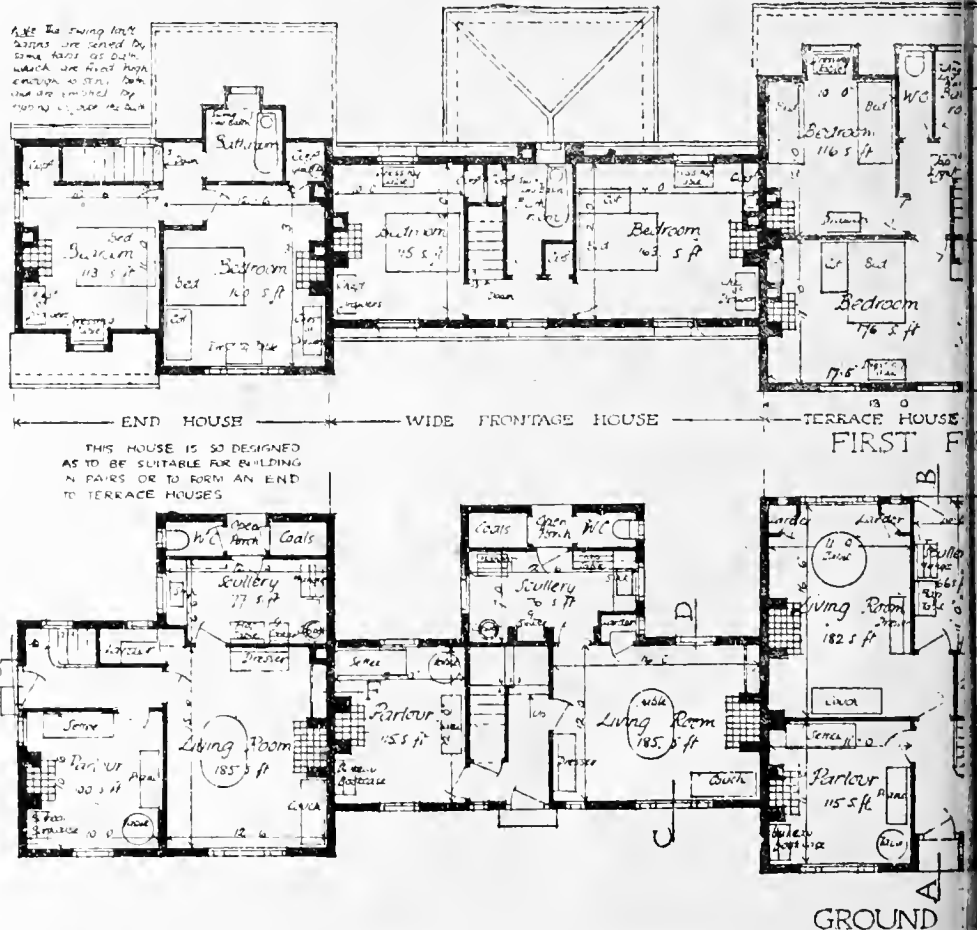
Cubic Contents
 Measured from 1 foot below floor to halfway up roof, including chimneys
 Hipped ends deducted

Terrace House 1075 c ft
 Wide Frontage 9950 c ft
 End House 4488 c ft

The superficial areas of
 Rooms are given net after
 deducting chimney breasts
 & fixed cupboards

W — E
 S

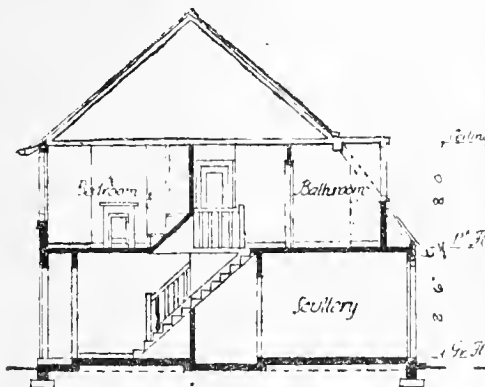
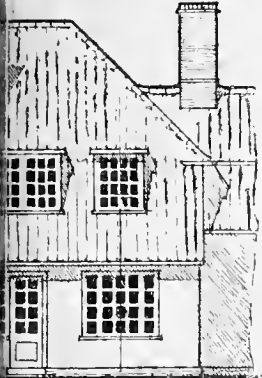
SHEET No 1



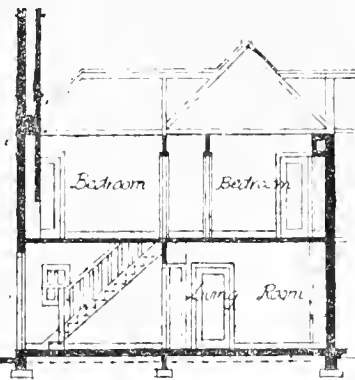
MANCHESTER & LIVERPOOL AREA



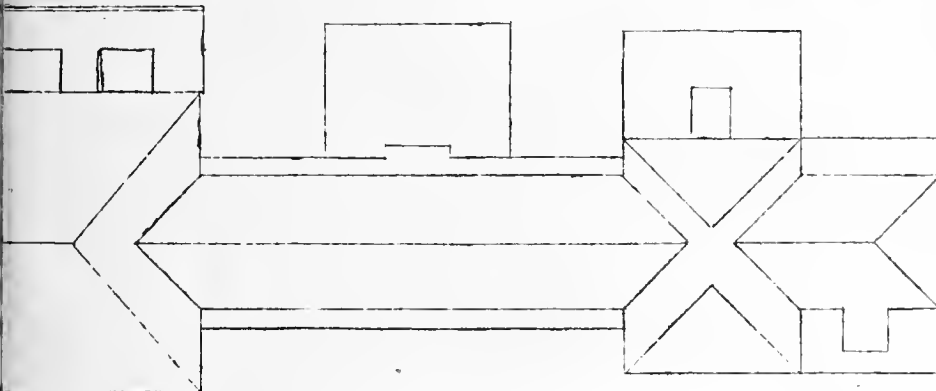
ELEVATION (Urban Areas)
Urban Areas as Sheet 2



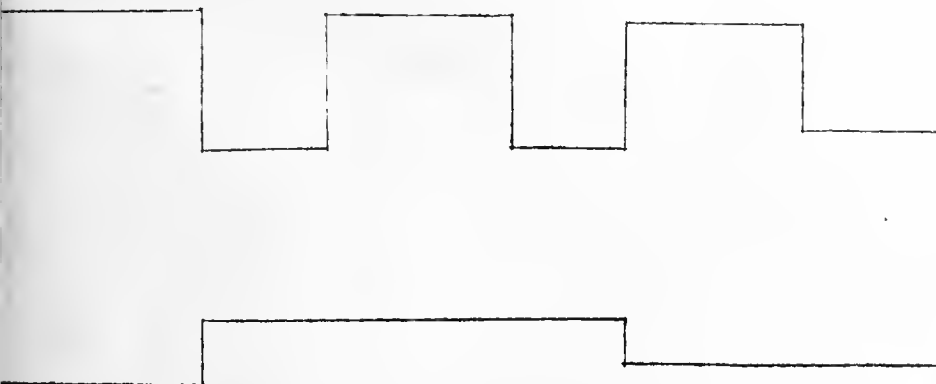
SECTION AB



SECTION EF



FLOOR PLAN



BASEMENT PLAN

Materials

FOUNDATIONS Concrete footings 9" x 9" brick walls up to first level.
EXTERNAL WALLS hollow formed breeze concrete blocks 7" thick x 9" high x 3' 0" long, external face cement rough cast 1" thick & in some with outside insulate PRESENT.
EDGE of such blocks first course & roughcast is about 46 per sq yd.
PARTY WALLS as above but without rough cast.
INTERNAL WALLS & PARTITIONS Furnace breeze concrete slabs 3" thick, summered with plaster.
CHIMNEY STACKS, Bricks & flues of brickwork throughout.
IN DISTRICTS where suitable & where facing bricks are obtainable the external walls might be of brick 11" thick & party walls 9" thick.
ROOFS Roodies or small 8" blue slates according to district.
GROUND FLOORS Living Room & Parlour 6" P.C. concrete, trowelled surface, covered with black brown linoleum, pasted down.
Sculleries 6" P.C. concrete & red quarry tiles or granolithic.
KITCHENS 6" concrete & granolithic.
FIRST FLOORS Reinforced concrete beams 4-6" apart cast in the ground & lifted into position with 24" reinforced cast concrete slabs laid between surface floated with cement & covered with linoleum.
USE OF TIMBER is thus avoided.
WINDOWS Double hung sashes standardised in 13 sizes.
CARPENTERS WORK Spones doors & pulleys.
JOINERS WORK External doors frames & windows of red deal.
INTERNAL doors 90 of spones.
HOT WATER SUPPLY Back boiler to Range & 25 gal cylinder.

COST OF BUILDING BEFORE AND AFTER THE WAR.*

BY ERNEST H. SELBY (VISITOR).

(Continued from page 292.)

This kind of engineering work is, of course, highly specialised, and the various data obtained from previous work is of the greatest assistance in arriving at prices. It must not be supposed, however, that one job will form a precedent for all others, and to imagine that, because one class of excavation in a particular locality can be executed at a certain price per yard cube, similar excavation can be carried out in another locality at the same price, might prove to be utterly wrong, as the soil to be dealt with might be of quite a different character.

May I say a word with regard to the excavation in more ordinary building work, where deep basements have to be constructed, and where bills of quantities are supplied that purport to give the necessary planking and strutting and timbering in detail? To imagine that a large and deep excavation (except in rock or other stable material) be got out in one single operation, and that timbering is only necessary round the extreme sides, is wrong. In one instance of large deep excavation that I have come across, the excavation had first to be got out in trenches round the site, some of which trenches, on account of the construction of the retaining walls being ferro-concrete, had to be got out 60 feet wide and over and about 35 feet deep, the timbering of which cost more than the total cost of the excavation and carting away. On the other hand, I also know of a case where certain exact particulars were set forth in the bill of quantities of the width and depth of the trench to be got out round the site, and in arriving at the price for the timbering the contractor carefully based his price for same, not on the total depth, but on 1 foot only in depth.

The probability of finding sand or ballast suitable for use in the work has also to be taken into consideration, although this must be discounted to a certain extent, as water is frequently met with where either of these materials is found, and the finding of too much of either of these useful materials is not always an unmixed blessing.

Taking concrete as the next item in pricing, the difficulties here are not so great, as reliable prices can be obtained for the cost of the materials, and the estimator has only to form his own opinion as to the probable cost of the labour, which must largely be governed by the size of the concrete to be filled in, as, if concrete can be mixed in a mechanical mixer and shot direct into position, the cost of same is much less than if mixed in small quantities by hand and filled into ordinary trenches. The cost of shuttering is an important item in concrete above the ground, and if not given in detail some further calculations have to be made by the estimator.

The next item we come to is brickwork, again involving the estimator only with regard to labour, as accurate prices can be obtained for the cost of the materials.

One item of brickwork I was once called upon to price was unique in my experience, the description was so many yards cube of "Brickwork in any position, including facing glazed, or otherwise." The cost of a rod or yard cube of brickwork in a big embankment, or a thick wall finished with ordinary facing bricks, is somewhat different from the cost of a 4½ inch wall faced both sides with glazed bricks.

Taking stone as the next item to consider, here we get a material that has been worked under varying conditions from time immemorial. The advent of machinery largely affected the cost of working stone, and very careful records have been kept of the cost of this working, enabling the price to be put down to cover the cost of the stone work at per foot cube.

The prices at which granite could be bought ready worked for fixing has always been a mystery to me, but perhaps the fact that some of the firms producing such granite work have disappeared may account for it.

With the advent of constructional steel-

work and ferro-concrete, a complete revolution was made in the structure of buildings, largely affecting the cost and complicating the design, but giving far more space for use in the building.

The cost of labour on ferro concrete work is no doubt high: not only has the steel reinforcement to be placed in exact position, but it has also to be kept there while the concrete is being filled in, and where concrete has to be filled into beams with reinforcement in the top as well as in the bottom the labour involved is most costly. Again, if I may say so, the design is so intricate, and the strength so accurately calculated that the work has to be most carefully and exactly executed, and men found and trained for this purpose. The ties and stirrups have also to be kept at their proper distances, and I believe that twenty ties or stirrups in a lump are not supposed to fulfil the duties of those designed to be placed at regular intervals.

The cost of centering and moulds for ferro-concrete work has to be very carefully worked out, especially where there are large spans, and where much scaffolding is necessary. Experience gained in this class of work from the actual cost is, of course, of the greatest assistance to the estimator, but it is necessary to take the work in full detail, as the cost of the various kinds of centering differ enormously.

The proper value of this ferro-concrete work has been fairly accurately ascertained, and the wide differences in prices that obtained in the early stages have to an extent disappeared.

Before leaving the question of the prices for excavation, concrete, brickwork and stonework, I would like to observe that there are no stereotyped prices for these classes of work, each has to be worked out on its respective merits for each class of job in each particular locality. Although approximate prices may be put down the cost of materials and transport differs so largely in different localities, that it is impossible to estimate closely without making full inquiries on the spot.

Taking the remaining trades to be priced here we get much more uniformity. The cost of materials does not differ largely in the various localities, and there are not nearly the risks to be run in the finishings (providing care is taken in selecting the materials, and carrying out the work), as there are in the constructional part of the work. The cost of transport is not nearly so serious, most of the materials being of no great weight.

In the formulating of some hundreds of prices that comprise a tender, the estimator must have a good general knowledge of the value of materials, as it is obviously impossible to get in quotations for every thing required in the short time allowed for the preparation of tenders. He must also have the usual cost of labour at his fingers' tips. If estimators could spare the time, very valuable information can be obtained by comparing the costs of the various trades with the totals of the trades in the accounts, and if this is done regularly and continually closer estimates can be prepared, and if certain jobs do not pay, or pay a higher percentage than that estimated for, unless there are very special reasons for it, the causes can usually be discovered and rectified the next time.

The advent of the sub-contractor and specialist has, in one sense, made the task of the estimator easier, and in another more difficult, as, if a reasonable amount is put down for the use of scaffolding, plant and appliances to be found by the contractor for the general conduct of the job, and for profit, he usually finds out that someone else is willing to cut these things a bit finer.

Latterly a good many tenders have contained work of two classes, that to be tendered for by the contractor, and that for which provisional sums are included to be paid out to sub-contractors and specialists, and as the total amounts for each class were sometimes about equal the profit and attendances added to those provisional sums had a considerable influence on the amount of the tender.

The practice of the sub-letting of certain trades or portions of trades to other contrac-

tors is of great assistance to the estimator, but I think that, before taking their estimates as his own, he should carefully examine the prices, as well as exercise discretion in the choice of the estimates adopted.

The time and money spent in obtaining these sub-estimates and quotations is prodigious, but I cannot see, under the complicated system of keen competition, that there is any other method of obtaining reliable information when one has to tender for work all over the country.

Having set forth the difficulties to be overcome, and the information to be obtained, we now come to the conditions prevailing under which work had, or will have, to be undertaken.

Considering, in the first place, the prices of work obtaining before the war, I think it must be generally admitted that competition was keen, and that the number of jobs placed in contractors' hands without competition were few and far between. The natural reaction following the boom in the building trades some fifteen years ago was felt acutely just before the war, and prices were cut very finely owing to the supply being greater than the demand.

The accumulation of wealth necessitated finding some means for employment, and people not infrequently embarked upon schemes and businesses about which their knowledge and experience was limited, and they, therefore, had to rely almost entirely upon the advice given them by others, with out being able to verify it themselves or to assist in arriving at any general conclusions. Unless an estimator with a long and varied experience in pricing was employed, not, perhaps having the necessary data upon which to base his prices in the office, the results were somewhat erratic, and work was not infrequently undertaken at cost, or even under, the competition among the specialists and sub-contractors being especially keen.

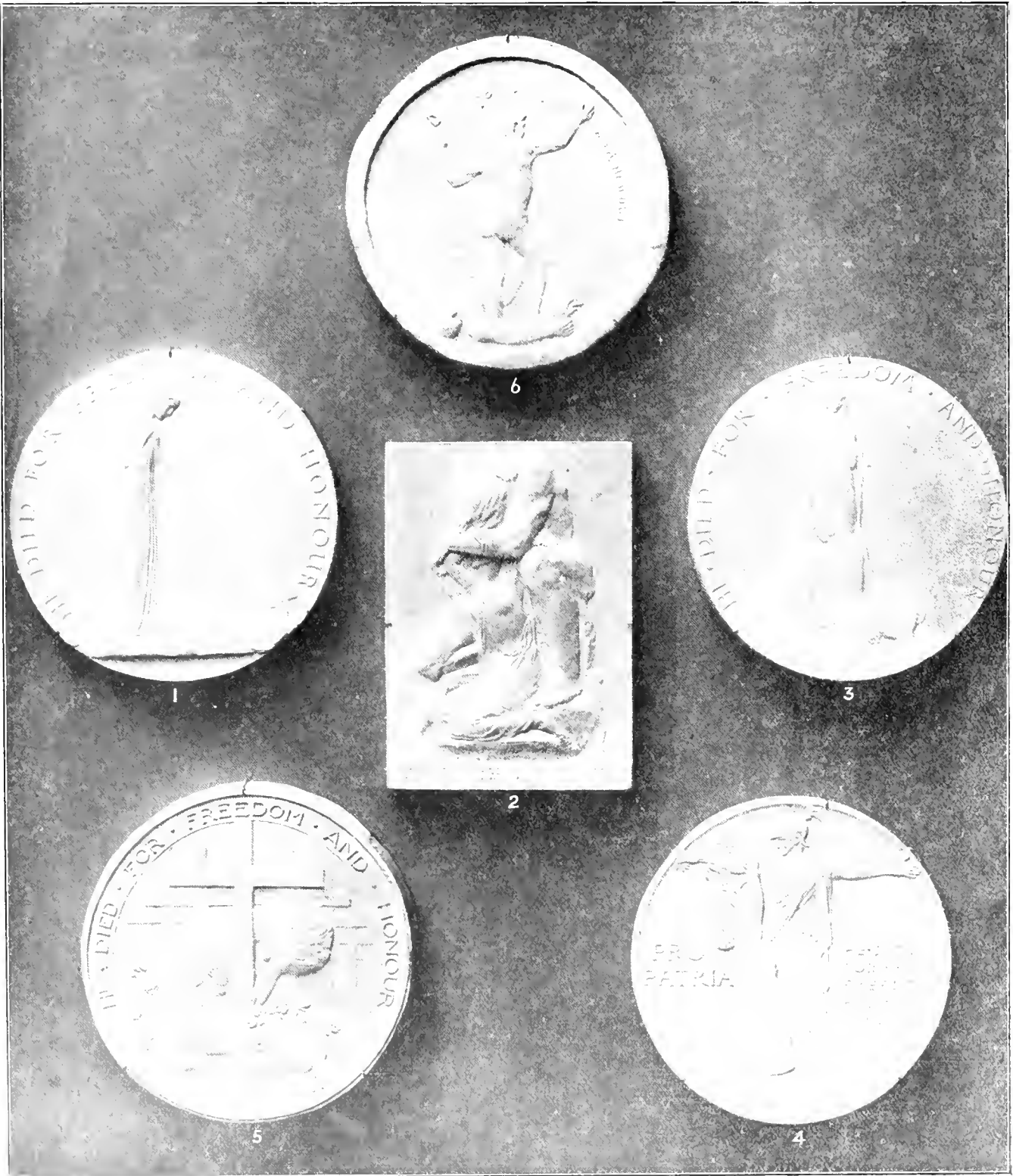
Of late years, a great deal of time and attention has been paid to teaching the elementary and advanced stages of building construction, but I personally have not come across many, or any, young people who have been taught much of the science of estimating. A number of books have been published giving the prices of various work, but, when all is said, the numerous prices it is possible to give are merely examples, and the data given have to be applied to the actual work tendered for.

After gaining all the information obtainable from all sources, the next thing to do is to be able to price an estimate on the information thus obtained.

This, however, is only the beginning, for many estimates are priced, and but few contracts obtained. It is not sufficient for an estimator to be able to price a bill on hard and fast lines. He must keep in constant touch with the prices that are being quoted, and attempt to ascertain where and why other estimates differ from his own. Of course, there is a point reached at which jobs are not worth taking; but, as the class of work asked for is constantly varying, and as the extreme cutters cannot manage to carry off all the cream of the work, some crumbs must fall at last to the fairly-priced estimate. As time goes on, even the most extreme of the cutters have to revise their prices, as contractors, and even limited liability companies, have a limit to their resources, and I suppose that even advertisement has its price. Of course, when any contracting firm is well established, and is noted for good work, the competition for high-class work is not quite so keen, as such firms tendering usually know what the work is really worth, and price accordingly. The practice of pricing out items to the 1-16th of a penny really does not make any appreciable difference in the amount of the tender, and is very likely to lead to mistakes being made in the subsequent clerical work, especially when tenders have to be submitted at short notice. If the prices are arrived at on sound and consistent principles, a far more accurate estimate can be arrived at in the time given without going into such intricacies.

The cost of building was, like everything else, high, owing mainly to the largely in-

* Read at the Ordinary General Meeting of the Surveyors' Institution, held on Monday, April 8, 1918.

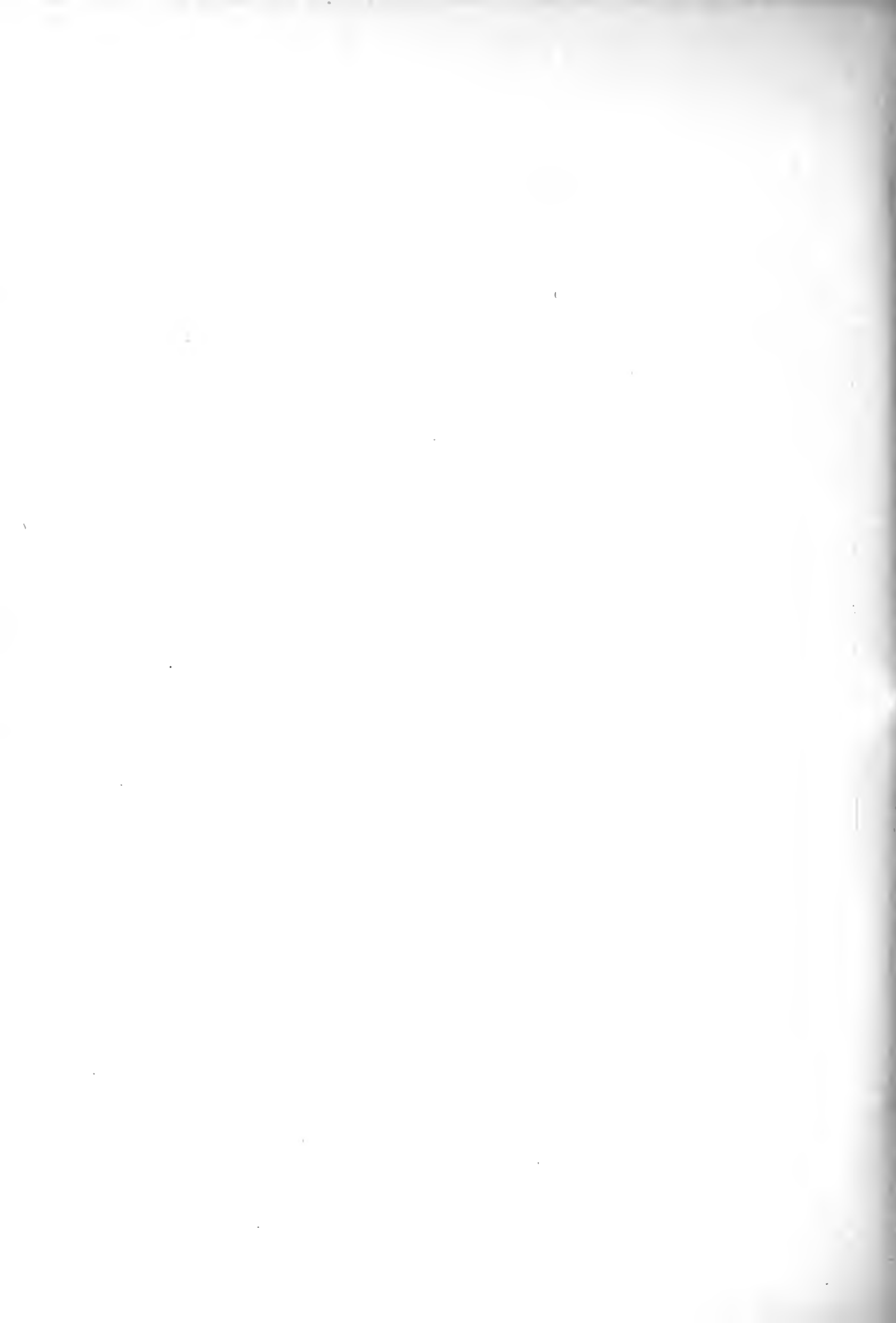


PRIZE DESIGNS FOR WAR MEMORIAL PLAQUES. (See page 10.)

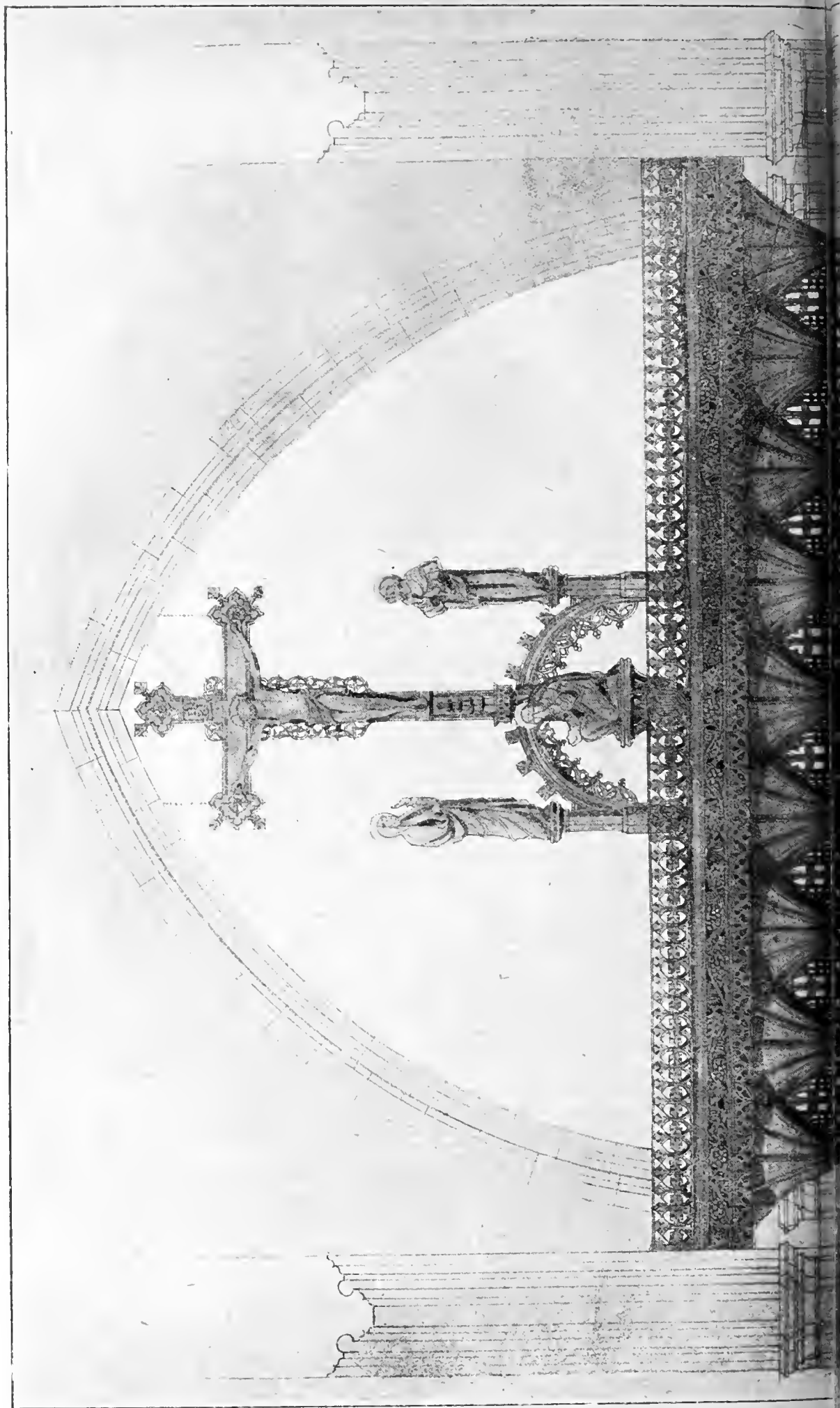
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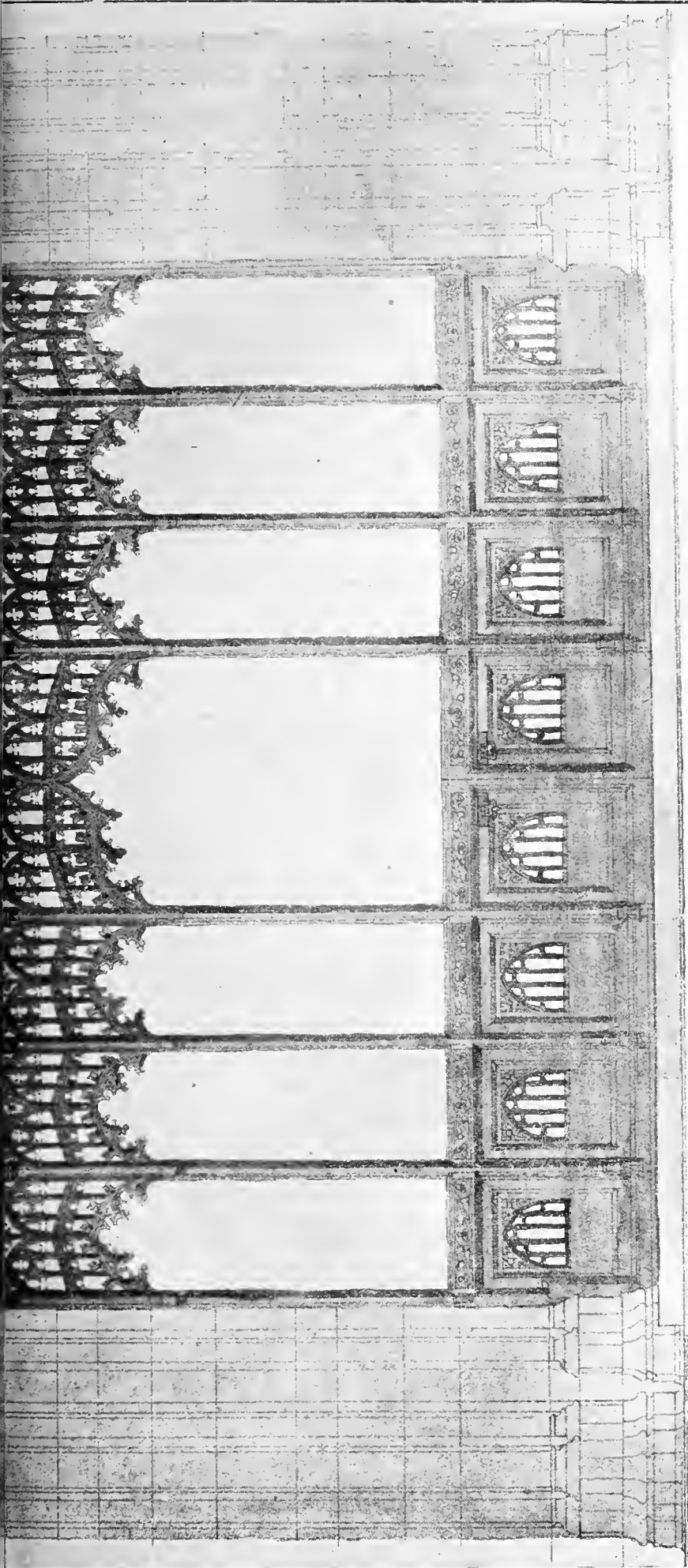


THE EDITH CAVELL MEMORIAL, LONDON: THE BRITISH LION, DETAIL.
SIR GEORGE FRAMPTON, R.A., Sculptor.



THE BUILDING NEWS, APRIL 17, 1918.

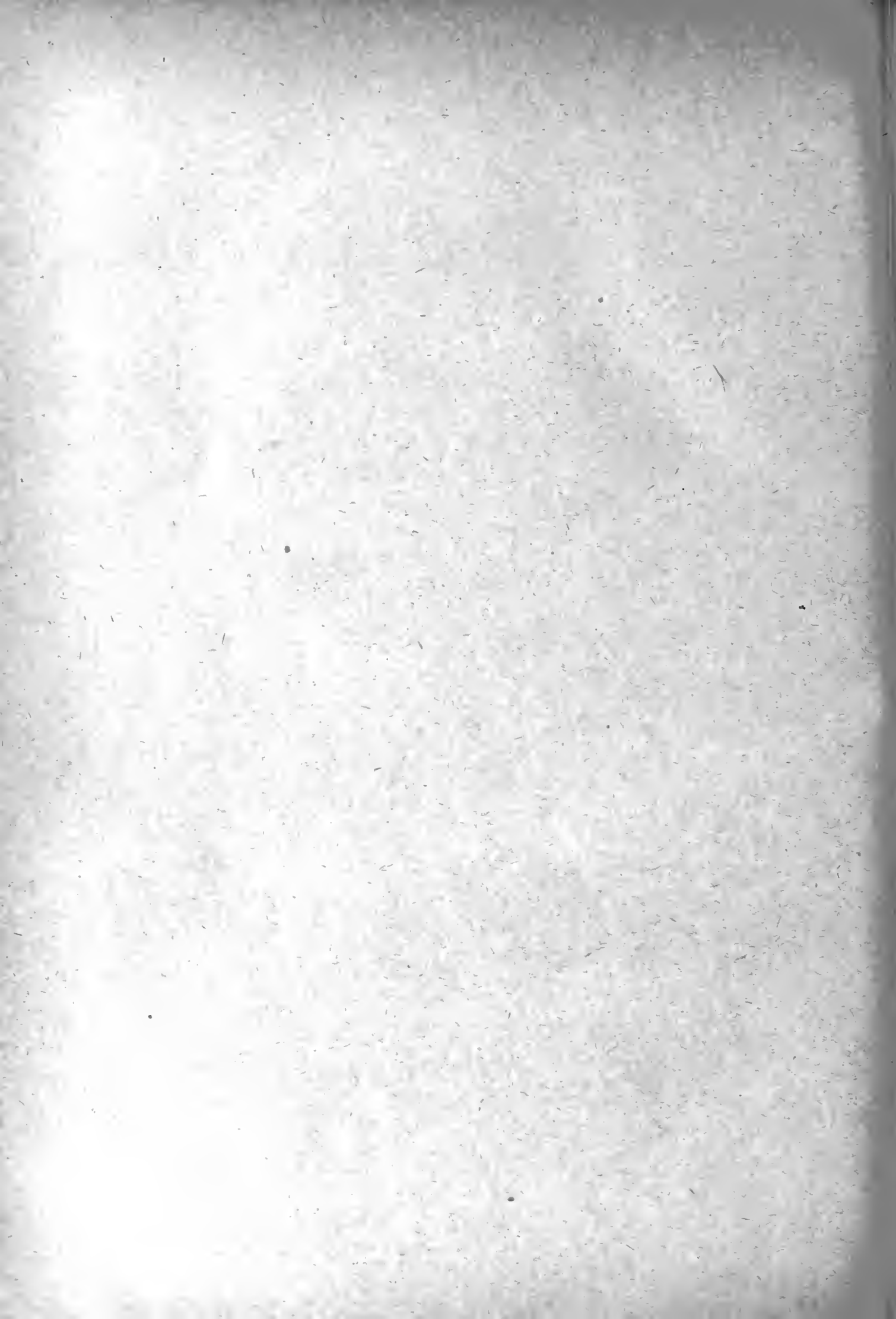




ST. JOHN'S CHURCH, PETERBOROUGH.
CHANCEL SCREEN.

NEW ROOD SCREEN, TO BE ERECTED IN ST. JOHN'S CHURCH, PETERBOROUGH.

Mr. CECIL G. HARE, Architect.



creased commodities required in each building, and to the more permanent and lasting, and, in some cases, extravagant means that had to be adopted to meet the competition in the buildings erected; the latest up-to-date building erected being eclipsed by more up-to-date and elaborate buildings in a few years.

Both labour and materials had been rising for a number of years, although the saving effected in the form of construction of the work might possibly partly cover the additional cost, although the cost of labour had not only risen considerably, but the output had also been reduced.

These matters, however, usually right themselves in time, as it is not to be supposed that buildings were erected unless there was some chance of their being a commercial success. Although the cost of building had increased, the rents for commercial buildings had increased in a greater proportion, the more up-to-date buildings commanding far higher rents than the older ones.

The next phase I now come to is the *prices of work* during the war.

When this stupendous conflict was first thrust upon us, the position was not apparently at first properly appreciated. "Business as usual" was attempted, presuming that we could carry on the war with one hand and conduct our business with the other.

This extraordinary state of things continued for about fifteen months, and the prices of materials during that time, with the exception of those used for the actual carrying on of the war, did not advance to any appreciable extent, and the cost of labour for the time remained about the same. Soon, however, the enormous inroads made into the stocks of timber in the country, used in the construction of huts for the troops and other military purposes, came to be felt, and the cost of all materials that we had previously obtained from abroad advanced rapidly, owing to shortage and increased shipping freights.

The cost of living advanced by leaps and bounds, and, of course, the rate of wages paid to workmen has to be correspondingly increased and war bonuses granted.

When all private work had eventually to be stopped, to allow the Government to carry out those enormous works which were necessary to produce the sinews of war, the prices of materials continuously advanced, and the output of labour, at least in the building trades, in a large number of cases steadily decreased. The practice of placing contracts on a percentage of profit basis did not tend to improve matters, and to meet the exigencies of the situation, most of the work having to be done in a very short time, a greater quantity of labour was employed than could be used advantageously.

The condition of things soon became chaotic, quotations were given under all sorts of restrictions, and were subject to alteration without notice. Stocks were commandeered, and prices of all materials rose considerably and are still rising.

In spite of the tremendous increase in price many and heavy losses were incurred on lump sum contracts, and a very large amount of the work now being carried out is on a cost and profit basis, or, if on a lump sum, with contingent increases for rises in prices of labour and materials.

What will eventually be done with pre-war contracts that extended into the war period and the contracts taken during the war still remains to be seen, but the application of the principles underlying the Courts (Emergency Powers) Act of 1917 may, in some measure, assist in distributing the loss among the parties concerned.

I shall not attempt to deal with the prices during the war in detail, as no useful purpose would be achieved by doing so. We hope and trust they are only transitory, and will soon be buried in oblivion. It must not be overlooked, however, that the prices of materials home produced and the few that are imported are still going steadily up, and it is impossible to say how high prices will eventually reach, while advances are continually being made in the rates of wages.

I now come to the last phase of the pre-sumptive or *speculative* prices for work that will probably rule after the war is over, which, of course, will be affected to a very large extent by the conditions under which peace is made.

Taking first the cost of labour, this must be governed by the cost of living, and although house rents have not advanced as yet to any appreciable extent, the cost of living, which seriously affects the pockets of wage-earners, will not, in my opinion, be reduced for some years to come, and I submit that only by the reduction in the cost of living can the wages of workmen be reasonably expected to be reduced.

If it is found possible to specialise in the various trades, so that each man can take up a particular job, or portion of a job, greater efficiency, and consequently greater output, would be the result, and if each task could be arranged so that the workman or workmen employed could be paid by result on a uniform basis, more economical means might be found of executing the work.

The process of rate cutting by reducing the scale of payment would, of course, tend to slow down the output, but if proper rates, in the first place are arranged on an equitable basis by the employers, in conjunction with the workmen, and workmen choose to exert themselves, the result ought to be satisfactory, the employers benefitting by the increased output, and the competent workmen would be enabled to earn far more with the general public benefitting to the largest extent.

There were certain specialised trades before the war, such as slating and tiling, wood block floor, mosaic and other special floor coverings, gauged brick-cutting, fencing, certain forms of metal working, glazing, and many others, where men were employed always at the same thing, and thus became far more expert, where the prices at which these particular works were executed could not be done by ordinary tradesmen. Surely if the work is done, and done properly, and a proper living wage is to be earned, the cheaper the work is done the better for all.

If some sort of a scale of wages were arranged for output, which was not immediately varied directly the employers considered the workmen were earning too much, or varied to suit the requirements of those people whose one idea appears to be to do as little as possible, not only would the cost be in time reduced, but estimates could be much more closely and accurately priced.

As occasion arose the rates could be revised to suit the particular localities by mutual agreement, and I feel convinced that in this way the cost of many materials could be reduced, and a great many savings be effected in the course of working and fixing the materials at the site.

Considering the extensive schemes that are being launched for industrial housing and the cost of same, unless the State is going to bear a serious loss, the rents of these new houses will have to be considerably higher than the rents paid for similar houses before the war, and this again will tend to raise wages, or at any rate keep them at a high level. However, taking all these things into consideration, the increased output which ought to result from better wages, shorter hours, and better conditions of living may, when the excitement and unrest caused by the war has calmed down, result in the lowering of the cost of work considerably. Whether this happy result will follow or not has to be proved; but the enormous convulsion caused by the war may have startling results, especially when the boys of all sorts and conditions who have been so gallantly fighting for their king and country return to us again.

These great social questions do not come within the scope of this paper, but they are bound to have a far-reaching effect on the prices at which buildings will be erected after the war.

The price of labour will naturally largely affect the cost of materials, and if the labour problem in the production of materials can be entirely solved by payment by results, the cost of materials ought to come down in a reasonable time to something approximating to pre-war rates.

The governing factor in all things, however, has, and always will be, supply and demand, and considering the enormous arrears of work that will have to be taken in hand when the war is over it is not to be supposed that prices will come down when there is much work about.

The amount of war work now being carried out by the Government, except no doubt the new shipyards extensions, we hope will be promptly closed down, and resumed, if found to be necessary, at some future and more auspicious occasion, thus releasing a large number of men who, as they are discharged, can be taken on for the more urgent semi-public work, such as repairs to railways, roads, etc., housing, and the reinstatement of buildings temporarily occupied by the military and the Government departments.

When tenders are again submitted, for some time at least, estimating will be more or less of a gamble until some new and reliable data can be obtained upon which to base the cost of work, and it is not to be supposed that contractors will take all risks unless they are properly covered by prices or insurances.

The same difficulties in pricing that existed before the war will still exist after the war, with the additional difficulties of finance, which will most probably tend to keep prices up.

The cost of materials in this country, with the exception of essentially war materials, ought to come down to some extent quickly, but with regard to the cost of materials that have to be imported from abroad the matter is far more complicated. Freightage will continue to be high for some time; but the rate of shipping insurance will be largely reduced directly the war is over, a fact which must at once exercise a considerable effect on the price of imported materials.

The first duty of shipping must, of course, be the supply of foodstuffs, and considering the position of this country with regard to the home supply of food, a very considerable amount of shipping will be necessary to replenish our depleted larders. There is also the very large amount of shipping that will be required for the transport of men and materials from the war areas, not only to this country but also to America and the Colonies.

To obtain and import timber will be one of the chief difficulties, as the various sources of supply have been largely depleted and dislocated, and will take some time to get into working order again, and although it has been found possible largely to do away with the use of timber in construction, yet a certain amount must of necessity be used in every building. The question of being able to obtain timber in any quantity after the war will largely depend upon the length of time the war lasts.

A large amount of home-grown timber has been made use of lately in our war buildings for carcasing work, but usually it has been quite unseasoned, and although the scantlings have been cut down to the smallest sizes, it remains to be seen whether it will prove efficient or not.

Setting aside the amount of work to be done in this country, where the damage thus far caused has not been very extensive, there is the very serious problem of rebuilding those regions that have been utterly devastated on the fields of battle, and surely this work ought to take preference over everything else, considering that up to the present those regions unfortunately lie mostly within the borders of our Allies or quondam Allies.

After the calls of nature with regard to food have been met, the housing of the population of the devastated regions must be attended to, and although the numerous temporary buildings erected all over the battle area will be of inestimable value in housing the workmen engaged upon the work of reconstruction, they are hardly suitable for domestic purposes, and in any event the majority are of quite a temporary character, and would be very costly to maintain, even if that were possible, for more than a few years.

The task of reinstating these devastated areas can be effected either by the inhabitants or by the inhabitants with the willing assistance of their Allies, or by the forced assistance of their Allies, or by the forced assistance of their Allies.

ance of their enemies, or possibly by the united efforts of all parties. I do not think that the fact should be overlooked that in all probability we shall be called upon to supply labour and materials for the housing of the people, and at least a portion of the materials for the reinstatement of the factories and business premises in those areas.

A large proportion of the buildings constructed during the war (excepting those erected for the manufacture of arms and munitions, and even some of those, where time was essential, strange and unusual methods and materials have been adopted) are of a more or less temporary character, and will not be of any permanent use. The numerous factories and additions to existing factories and buildings of that description (erected of a more substantial kind) ought to be capable of being adapted for the production of peace commodities, so that in some measure the call for that particular class of building, which we hope would be in great demand, ought not to be so pressing, unless (after our late experiences) we proceed to at once prepare for the next great war.

For the first nine to twelve months after the war the question of labour will still be acute until a large number of soldiers have returned and settled down to civil life, and during that time building operations will be as difficult, or almost as difficult, as during the war, so that during that period the cost of building will, in my opinion, remain at about the level of that at the end of the war, even supposing that the Government do not place an embargo on all luxury buildings for some time in order to push forward their numerous housing and other schemes, which, I think, is more than probable. After then, however, when things have more or less resumed their natural courses, the cost of building should be reduced.

The cost of materials produced in this country has not advanced in the same proportion as the cost of materials we have had to import, so that when ordinary buildings are again erected in a reasonable time the cost of same ought, and to a considerable extent, to quickly come down from "the during the war prices."

Coming now to the principal question of what the prices after the war are likely to be, if we take the pre-war rate of building at x the consequent increased rate after the war will naturally be y .

Much has been said and many conjectures made as to what y will be; one thing, I think, is generally admitted, that y will be a plus and not a minus quantity.

Wages, taking into account war bonuses, have already risen about 50 per cent., and materials anything from 50 to 500 per cent. It must not be overlooked, however, that the great bulk of the work has been carried on all over the country, and at great stress. Places have been selected for building operations in most inaccessible spots, and the difficulties in housing the workmen were frequently solved by building temporary hutting accommodation, or bringing men in from the surrounding districts by train or other means of quick transit, and railway communications had to be formed.

These obstacles have naturally raised the cost of the work, as all the workmen's special expenses had to be paid and allowance made for the extra expenses they were put to in living away from home.

These conditions however, should rapidly alter when we return to more normal times, and although the rate of wages (exclusive of the purely war bonuses) will take some time to be reduced—if it is ever reduced—yet the total cost of the work may not be very greatly increased thereby if a little more latitude is allowed in the construction of buildings and some system of co-operation adopted between masters and men before referred to.

Passing over the period of the first nine to twelve months after the war, by which time we may expect to have returned to something like normal times, we shall also return, we hope, to ordinary building conditions.

Separating the constructional work and the finishings of a building, which in ordinary buildings, excluding factories, can be taken as roughly about half-and-half, the con-

structional work is largely made up of materials, while the finishings take a greater percentage of labour.

(To be continued.)

OBITUARY.

Second Lieutenant Edmund Montagu Prinsep Fisher, who has fallen at the front, was the third son of the late Mr. and Mrs. Herbert Fisher, and the brother of Mr. H. A. L. Fisher, Minister of Education, and of Charles Fisher, sometime Censor of Christ Church, Oxford, who went down with H.M.S. *Invincible* in the Battle of Jutland. He was born in 1872, educated at Haileybury, and was trained as an architect in the office of Mr. Basil Champneys. In 1915, being well over military age and ineligible for active service, he went over as orderly to the *Hôpital Temporaire*. Later, accepted for active service, and having completed his training for the R.F.A., he saw hard fighting in the Ypres salient and in the battle of Cambrai. On January 17 he was struck down with appendicitis and died on Easter Sunday. He leaves a widow, the daughter of Mr. Douglas Freshfield, and seven daughters.

COMPETITIONS.

WELSH HOUSING AND DEVELOPMENT ASSOCIATION COTTAGE DESIGN COMPETITION.—The Council of the Society of Architects are in communication with the promoters in regard to Clauses 5 and 21 of the conditions of the competition, which, in the opinion of the Council, are not in accordance with the competition regulations adopted by the Society. Members of the Society are requested not to take any part in the competition without first ascertaining from the Society that the conditions have been amended to meet the views of the Council.

PROFESSIONAL AND TRADE SOCIETIES.

EDINBURGH ARCHITECTURAL ASSOCIATION.—The annual general meeting of the Association is being held in the Rooms, 117, George Street, to-day at 8 o'clock p.m., Mr. T. Forbes MacLennan, Esq., A.R.I.B.A., president, in the chair. The business is proposal of new members; votes of thanks for permission to visit various buildings, etc.; submission of reports; the election of office-bearers for ensuing session 1918-1919; and the president's valedictory address. The honorary secretary will be obliged if professional members who have not yet replied to the circular letter regarding the proposed Royal Charter for the I.S.A. will kindly do so at their early convenience.

The Spenborough District Council has provisionally approved a design for a new fire brigade station, to be situated on the main road between Cleckheaton and Liversedge, at Marsh.

Sir Charles Waldstein, of Newton Hall, Newton, Cambridge, Fellow of King's College, Cambridge, and formerly Slade Professor of Fine Art, a naturalised British subject since 1899, who has resided in England for forty-two years; and Dr. Martin Edward Waldstein, of 23, Broadwater Down, Tumbidge Wells, and Sloane Court, London, S.W., late of New-York, U.S.A., have taken steps to change the spelling of their name from Waldstein to Walston. Both were born in America.

The percolation of water into cellars after heavy rains can be prevented with absolute certainty provided certain precautionary measures are taken. For instance, the Sanitary Engineer of the Alcester Rural District Council points out that one particular cellar, following every rainfall, was flooded for several days, sometimes to a height of about two feet. At first it was rendered with ordinary cement and the floor concreted, but without arresting the percolation. Then treatment with Pudlo cement was decided upon. The floor was concreted with a 6-in. layer of 3-1-1 mixture, with 3 lbs. of Pudlo to every 100 lbs. of cement, and then rendered with a 2 and 1 mixture of Pudlo cement, and the walls were rendered with a 2 and 1 coating 1½ ins. thick in four coats with 5 per cent. of Pudlo, the result being entirely satisfactory.

Our Office Table.

In anticipation of the submission of housing schemes for the working classes for approval, the Local Government Board for Scotland has, with the approval of the Treasury, effected a reorganisation of their Housing and Town-Planning Department. The Board's staff will now include a Housing Commissioner, a Legal Assistant, a Chief Engineer, an Assistant Engineer, two Architects, a Housing Inspector, an Assistant Housing Inspector, and draughtsmen as required. The clerical staff will be correspondingly increased. The Board have appointed Mr. J. Walker Smith, at present their Chief Engineering Inspector, to the post of Housing Commissioner.

At Carpenters' Hall, London, on Wednesday last, Mr. M. C. Duchesne lectured on British timber and the safety of the realm, advocating that we should replace our present system of depending almost entirely on foreign supplies by a method in which the bulk of our timber would be obtained from Canada, while here we developed a home supply which could be used in case of emergency. In sixty years previous to the war he said our consumption of wood per head of population had grown from 3½ to 10½ cubic feet, while imports had increased five-fold. Nearly all of this came from Europe, the bulk of it indeed from countries around the Baltic. Canada supplied about 1,000,000 loads. This included varieties of spruce—from which white deal was obtained—Douglas fir, Weymouth or white pine and thuja plicata, or the Western red cedar. This year's requirements amounted to six million tons; and, if the programme was carried out, by the end of the year a million acres, representing a third of our total area, would be felled. To replace this at three thousand seedlings per acre would need three thousand million seedlings; and at forty years the timber could be cut or thinned for railway sleepers and, if it was not all cut, what remained would grow on for building purposes. If the Government's proposal to erect a million cottages immediately on the conclusion of the war broke down, it would be for lack of timber.

Messrs. Derry and Toms have turned a suite of their showrooms, in Kensington High Street, to the purposes of a permanent Art Gallery, for the exhibition from time to time of the works of contemporary artists. The rooms opened to the public on Monday last with a comprehensive collection of Mr. Frank Brangwyn's war work. These lithographs, including the latest recruiting posters executed for the United States Navy, are actual impressions from the artist's direct work on the stone. Two in particular likely to attract attention are "Britain's Call to Arms," the first war-poster designed by Mr. Brangwyn, and "The United States Appeal."

The Lord Mayor opened last Friday at the Guildhall Art Gallery the twenty-ninth annual exhibition of the Royal Drawing Society. Princess Louise, president of the society, awarded her prizes to Jean Thomson, Streatham College, for her "Snapshots in Water-colour of a Dancing Class," and to John H. Rollin (Workshop) for "Snapshots of a Train Ride in Sheffield." Some landscapes and floral studies from Australia, which won silver and bronze stars, had been recovered from the sea, the mail boat in which they were having been torpedoed. They were little damaged. Exhibits sent from Colombo were lost through the same cause. In the competition for Boy Scouts, special prizes for drawings from memory and observation, the first prize, a gold star, was won by F. K. Giles, 1st Westminster Troop, aged 17; the second, a silver star, by H. W. Sindall, 4th Brockley, aged 15; and the third, a bronze star, by E. A. Birks, Manchester Troop, aged 13. This competition arose out of a scheme arranged last year by Sir R. Baden-Powell and Mr. T. R. Ablett, the director of the society.

Mr. George Rogers MacDongall, Bournemouth, retired merchant, a native of Scot-

land, who has left £148,724, on the decease of certain life-renters, leaves to the Board of the Trustees for the National Galleries of Scotland, £26,000, to be used and applied as a fund, similar to the Lewis Fund of the National Gallery in London, and to be called "The MacDougall Fund," the income to be applied for the purchase of pictures or other objects of art for the National Gallery of Scotland; to the M'Lean Museum Watt Institution, Greenock, £2,000, to be applied preferably for the extension of the Museum; and to the Bournemouth Natural Science Society, £2,000, as the nucleus of a fund for erecting and equipping a museum and picture gallery at Bournemouth.

The *Irish Builder* says that at this year's exhibition of the Royal Hibernian Academy, architecture is, as usual, conspicuous by the few contributions—only three architects send examples of their work—a couple of churches, a shop front, and a house. It is suggested that there exists a project to remove the Academy to a site nearer the other art institutions of the city and to its fashionable quarters, where more extensive accommodation would be available. This year the exhibition—the 89th—is being held in the Metropolitan School of Art, and there are 370 exhibits.

The *Board of Trade Journal* says that the imports of paper and paper-making materials, which amounted to 1,798,349 tons in 1914, were reduced to 1,146,724 tons (by 36½ per cent.) during the year March 1, 1916, to February 28, 1917. During the following year, that ended February 28, 1918, there was a further and drastic reduction to 583,162 tons, or by 67½ per cent. in comparison with the import figures of 1914. For the current year, which began on March 1 last, there has been made another large reduction under the Paper Restriction Order, 1918, and the Regulations for 1918-19. The imports of paper-making materials have been cut down by one-half in comparison with those of 1917-18; of printing and writing papers by one-half; and of packing and wrapping papers, strawboard, millboard, wood-pulp board, and articles made of paper, by one-third. No printed matter may be imported except in parcels up to 7 lb. weight sent through the post. The effect of these new restrictions is to reduce the weight of paper-making materials imported to 202,000 tons, of writing and printing papers to 19,000 tons, and of packing papers, boards, and articles of paper to 54,000 tons—a total of 275,000 tons.

Without calling on the respondents, the Lord Chancellor and Lords Haldane, Shaw, and Parmoor, in the House of Lords last Friday, reserved judgment in the appeal of the Royal Agricultural Hall Company (Limited) against the Assessment Committee of the Metropolitan Borough of Islington for a reduction of the valuation of the hall in consequence of the gross and rateable value having been reduced by prohibition issued by the Minister of Munitions respecting shows, fairs, and exhibitions, for which the hall is mainly used.

FOR Olivers' Seasoned Hardwoods,

APPLY TO—
WM. OLIVER & SONS, Ltd.,
120, Bunhill Row, London, E.C.

TENDERS.

*Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender: it adds to the value of the information.

COLNE (LANCS).—For supply and delivery of materials (one year) for the Highways and Sewerage Committees. Mr. T. H. Hartley, borough surveyor. Accepted tenders:—

Penmaenmawr and Welsh Granite Co., Penmaenmawr, granite (6 months); Brookes, Ltd., Hailtavy, granite (12 months); T. Feather, Mirfield, and P. W. Spencer, Skipton, limestone (12 months); J. Higginson, Colne Lane, Colne, brushes (3 months); W. Metcalf, Ltd., Church, near Accrington, pitch and oil (12 months); T. Ashworth and Co., Burnley, castings (12 months); P. W. Spencer, Lothersdale, leading of limestone (12 months); D. Walmsley, Trawden, team labour (3 months); Ship Canal Portland Cement Man., Ltd., Ellesmere Port, cement (6 months); J. Duckett and Sons, Burnley, earthenware pipes (12 months); J. Brooke and Son, Hipperholme, flags (12 months).

COOKHAM.—For work at the cemetery, for the Cookham Parish Council:—

H. Taft £25 10 0
Harding (accepted) 24 5 0

DARTMOUTH.—For laying stoneware and iron pipes, building filter bed, etc., at pumping station, for the Dartmouth Town Council:—

W. F. Wallis and Sons, Maidstone £1,680 0 0
J. Riley, Gloucester Road, Cheltenham 1,034 0 0

LONDON, N.—For works and supplies, for the Islington Borough Council. Contracts recommended for renewal:—

G. H. Bull (district No. 1), W. Weatherley, Ltd. (district No. 2), Moss Bros. (district No. 3), W. Watson (district No. 4), and J. Abraham, Ltd. (district No. 5), for supply of horses, harness, and men for street watering; J. Walker (northern district), W. Weatherley, Ltd. (south-eastern district), and J. Abrahams, Ltd., (south-western district), for cartage and horse hire for 12 months; W. Griffiths and Co., Ltd., mason's and pavior's work and granite, ballast, shingle, and sand for six months; N. Wise, ballast, sand, and boggin for 12 months; J. Abrahams, Ltd., grit and brick rubbish for 12 months; A. Stevens, timber for 12 months; J. Gladwell Newell and Co., wheels and tyres for 12 months; A. Solomons, Portland cement and lime for 3 months; J. Abrahams, Ltd., construction and repair of sewers, drains, etc., for 12 months; F. Cleaver, uniform clothing for 12 months; C. Straker and Sons, Ltd., stationery for 12 months.

SEDFIELD.—For supply of a double-decker oven to the workhouse, for the guardians:—
Morley and Co., Halifax £117 0 0
(Accepted.)

The north-east corner of St. Cuthbert's Church, Pateley Bridge, is to be fitted up as a chapel, in memory of those who have fallen in the war, and whose names will be inscribed on a brass plate on the wall.

Birmingham Parks Committee have decided to erect a special building at Cannon Hill Park, the cost to be borne by the Beecham Opera Company, where in summer performances will be given by military bands.

LIST OF TENDERS OPEN.

COMPETITIONS.

June 7.—For designs of cottages and "living-in quarters," for the National Eisteddfod of Wales. Open to any British subject. Premiums of £50 each for best designs in each of three classes. Premium of £10 for best design for "living-in quarters." Full particulars and conditions will be found on p. 277 of our issue of April 3 last. Designs to be sent in on or before June 7 to the Secretary of the Eisteddfod, Philip Thomas, Glynifer, Neath.

PAINTING.

April 30.—Tenders for painting Menai Bridge, North Wales, are invited by the Commissioners of H.M. Works. Forms of tender, draft contract conditions, and schedule of quantities can be obtained from the Chief Engineer, H.M. Office of Works, or from the Bridge Keeper at Menai Bridge. Tenders to the Secretary, H.M. Office of Works, Storey's Gate, London, S.W.1.

SANITARY.

April 20.—Construction of about 76 yards of 9-in. and 77 yards of 7-in. stoneware pipe sewers in Victoria Road and Washington Road, Emsworth, Hants, with manholes, laterals, and other works.—For the Warlington Urban District Council.—Frank Heath, Engineer and Surveyor, Emsworth, Hants.

April 22.—Reconstruction of about 407 yards of the Golder's Green and Temple Fortune main outfall sewer, situated principally in Golder's Manor Drive; and of a new surface water sewer from Ball Lane to near the Midland Railway.—For the Hendon Urban District Council.—S. S. Grimley, M.I.C.E., Engineer and Surveyor, Council Offices, Hendon, N.W.

Mr. W. Bowen Jones has tendered his resignation of the offices of clerk and surveyor to the Carnarvon Harbour Trust, from July 2 next. The vicar and churchwardens of St. Mary's, Dover, have appointed a committee to consider a proposal to build a memorial chapel at the eastern end of the church.

The death is announced, killed in action, on March 30, after serving since 1914, of Lieutenant Harry W. Mann, R.F.A. (A.R.I.B.A.), Assistant Architect to the County of Essex, third son of Mrs. Mann, of Witham, and husband of Elsey M. Mann (nee Matthews), of Chignall Hall, Chelmsford, aged thirty-four.

In the debate in the House of Commons on the Man-Power Bill last Wednesday Mr. Ellis Davies (Eifon 1) expressed the hope that, under Government contracts, men were not being retained simply in order to carry out these contracts. He understood that such men were largely employed in building houses at Rosyth, where 300 houses so built were as yet unoccupied. That was not right. Undoubtedly a great deal of wastage was going on.

A painful sensation was created in Blackpool, on the 8th instant, when it became known that the borough surveyor, Mr. Joseph S. Brodie (sixty-seven), died suddenly the previous night, shortly after returning from church. Mr. Brodie was formerly of the Liverpool city engineer's department, and afterwards became borough surveyor at Whitehaven, receiving the Blackpool appointment in 1900. His principal work was the widening of the Blackpool Promenade, an undertaking involving the outlay of over £500,000.

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BEST QUALITY.

Perfectly and thickly coated
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GOOD STOCKS

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all the usual lengths
and gauges.

whether straight sheets or curved
radius.

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IDA WORKS, DEPTFORD, S.E.8.

LONDON.

LATEST PRICES.

N.B.—All prices must be regarded as merely approximate for the present, as our usual sources of information are in many cases failing us.

TIMBER.

Owing to stoppage of supplies all prices have advanced considerably, and are controlled by the Director of Materials.

IRON.

Rolled Steel Joists, English.....		
Compound Girders, Ordinary Sections.....		
Compound Stanchions.....		
Angles, Tees, Channels and Plitch Plates.....		
Wrought-Iron Girder Plates.....		
Steel Girder Plates.....		
Steel Sheets (Single or Double).....		
Steel Strip.....		
Basic Bars.....		
Mild Steel Bars.....		
Steel Bars, Ferro-Concrete.....		
Quality (basis price).....		

Prices controlled by Ministry of Munitions.

OTHER METALS.

A licence must be obtained from the Director of Materials (A. M. 2 (E)), Hotel Victoria, Northumberland Avenue, S.W., and should accompany orders for quantities over 1 cwt.

	Per ton.	Per ton.
Lead Water Pipe, Town.....	£39 0 0	0 0
Country.....	40 0 0	—
Barrel Pipe, Town.....	40 0 0	—
Country.....	41 0 0	—
Lead Pipe, tinned inside, Town.....	41 0 0	—
Country.....	42 0 0	—
Lead Pipe, tinned inside and outside.....	43 10 0	—
Country.....	44 10 0	—
Composition Gas-Pipe, Town.....	42 0 0	—
Country.....	43 0 0	—
Lead Soil-pipe (up to 4 in.) Town.....	42 0 0	—
Country.....	43 0 0	—
[Over 4 in. £1 per ton extra.]		
Lead, Common Brands.....	26 0 0	—
Lead, 4lb. sheet, English.....	38 10 0	—
Lead Shot, in 28lb. bags.....	—	—
Copper Sheets, Sheathing & Rods.....	168 0 0	170 0 0
Copper, British Oaks and Ingots.....	147 0 0	150 0 0
Tin, English Ingots.....	365 0 0	—
Do., Bare.....	186 10 0	187 10 0
Pig Lead, in lwt. Pigs, Town.....	33 12 6	34 12 0
Sheet Lead, Town.....	38 10 0	—
Country.....	39 10 0	—
Genuine White Lead.....	53 10 0	—
Refined Red Lead.....	42 0 0	—
Sheet Zinc.....	138 0 0	—
Spelter.....	95 0 0	110 0 0
Old Lead, against account.....	25 0 0	—
Tin.....	18 5 0	—
Cut nails (per cwt. basis, ordinary brand).....	1 11 0	—
* For 5 cwt. lots and upwards.		

BRICKS.

Sale, Purchase for use, of all Bricks exceeding 0,000 in number is now forbidden by the Minister of Munitions except by license of the Controller of Bricks, to whom all applications for permits must be made at Whitehall Place, S.W., marked "Building Brick Permit."

(All prices net.)

First Hard Stocks.....	£1 0 0	per 1,000 alongside, in
Second Hard Stocks.....	3 15 0	" " " " (river.)
Third Hard Stocks.....	1 14 0	" " " " " "
Mild Stocks.....	2 2 0	" " " " " "
Picked Stocks for		delivered at
Facings.....	3 5 0	raily. station.
Flettons.....	2 10 0	" " " " " "
Best Fareham Red.....	4 0 0	" " " " " "
Best Red Pressed		" " " " " "
Rusbon Facing.....	5 15 0	" " " " " "
Best Blue Pressed		" " " " " "
Staffordshire.....	6 5 0	" " " " " "
Ditto Bullnose.....	6 10 0	" " " " " "

WHITE AND COLOURED-GLAZED BRICKS

WHITE IVORY AND SALT GLAZED (PER 1,000).

	£ s. d.	£ s. d.
Stretchers.....	14 17 6	
Headers.....	14 7 6	
Quoins and Bullnose.....	18 7 6	

Second quality £1 per 1,000 less.

OTHER COLOURS.

Best.	£ s. d.	Seconds.	£ s. d.
20 7 6		15 7 6	
19 17 6		14 17 6	
23 17 6		18 17 6	

MOULDING BRICKS.

Stretchers and headers, 8d each (plus 25%).
Internal and external angles, 1s. 2d. each (plus 25%).
Majolica and soft glazed stretchers and headers, £25 7s. 6d. per 1,000.
Majolica and soft glazed Quoins and Bullnose, £30 7s. 6d. per 1,000.

SAND AND BALLAST.

	£ s. d.	£ s. d.
Thames Sand.....	12 6	per yard, delivered.
Ballast.....	12 6	" " " "
Pit Sand.....	12 6	" " " "
Best Washed Sand.....	14 0	" " " "

CEMENT AND LIME.

	£ s. d.	£ s. d.	Per ton.
Best Portland Cement.....	55 0	to 58 0	delivered.
Ground Blue Lia Lime.....	33 6	at depot.	

Exclusive of charge for sacks.

	£ s. d.	£ s. d.
Grey Stone Lime.....	47 0	per ton
Stourbridge Fireclay in sacks 37s. 6d. per ton at depot.		

STONE.*

	£ s. d.	£ s. d.
Yellow Magnesian, in blocks..	per foot cube	0 3 3
Red Mansfield, ditto.....	"	0 2 9
White Mansfield, ditto.....	"	0 2 9
Red Corshill, ditto.....	"	0 2 6
Darley Dale, ditto.....	"	0 2 5
Grienshill ditto.....	"	0 2 4
Cleoburn Red Freestone, ditto	per foot cube	0 2 2
Ancester, ditto.....	"	0 2 0
Beer Stone, delivered on rail at Sutton Station.....	"	0 1 1
Ditto, delivered at Nine Elms Station.....	"	0 1 7½
Chilmark, ditto (in truck at Nine Elms).....	"	0 1 10½
Hard York, ditto.....	"	0 3 10
Do. do. 6 in. sawn both sides, landings, random sizes.....	per foot sup.	0 3 3
Hard York, 3 in. slab sawn two sides, random sizes.....	per foot cube	0 1 3

OILS.

Rapeseed, English pale, per tun	£28 15 0	to £29 5 0
Ditto, brown.....	26 15 0	" 27 5 0
Cottonseed, refined.....	29 0 0	" 30 0 0
Olive, Spanish.....	39 10 0	" 40 0 0
Seal, pale.....	21 0 0	" 21 10 0
Coconut, Ceylon.....	46 0 0	" 46 10 0
Ditto, Ceylon.....	42 10 0	" 43 0 0
Ditto, Mauritius.....	42 10 0	" 43 0 0
Palm, Lagos.....	32 5 0	" 33 5 0
Ditto, Nut Kerol.....	35 0 0	" 35 10 0
Oleina.....	17 5 0	" 19 5 0
Sperm.....	30 0 0	" 31 0 0
Linseed Oil.....	per gal.	0 6 2 Controlled.
Baltic Oil.....	"	—
Turpentine.....	"	0 11 3 " "
Putty (Genuine Linseed Oil).....	per cwt.	0 17 6 " "

TILES.

	s. d.	Divrd. at
Plain red roofing tiles.....	62 6	per 1,000 ry. sq.
Hip and Valley tiles.....	5s. to 9 0	per doz.
Broseley tiles.....	75 0	per 1,000 " "
Rusbon red, brown, or brindled ditto (Edwards).....	77 6	" " "
Ornamental ditto.....	80 0	" " "
Staffordshire (Hanley) Reds or brindled tiles.....	75 6	" " "
Hand-made sand-faced.....	80 0	" " "
Hip tiles.....	5s. to 9 0	per doz.
Valley tiles.....	75s. to 9 0	" " "

SLATES.

No reliable quotations for slates seem obtainable at present, and architects and builders will do well to specify and use some of the excellent substitutes which have found favour of late, partly as a consequence of the unsatisfactory condition of the slate industry, as well as the result of their greater durability and other recommendatory qualities. Prices of some of the best of these are as follows:—

ASBESTOS ROOFING TILES, supplied by the British Uraltic Co., Ltd., 85, Gresham Street, E.C. From £4 14s. per 1,000, 9 in. by 9 in., 400 tiles per square of roof covered, price per square, 37s. 8d., to £3 8s. 3d. per 1,000, 24 in. by 24 in., 34 tiles per square of roof covered, price per square, 22s. 3d.

ALLIGATOR ROOFING, supplied by the British Roofing Co., Ltd., 11, John St., Crutched Friars, E.C., in rolls of 216 feet super, with the necessary mastic and nails for fixing: 1 ply, 19s. per roll; 2 ply, 25s. per roll; 3 ply, 33s. per roll.

"POLITE." Made by Bell's Asbestos Co., Ltd., Southwark Station, S.E. Standard tiles in red, blue, and grey colours, carriage paid to nearest railway station, 15½ by 15½.—Red, £14 3s. 3d. per 1,000; grey or blue, £12 15s. per 1,000. Approximate prices per square, fixed complete to roof-boards or battens.—Red, £1 10s. 9d.; grey or blue, £1 8s. 9d. At present above prices are subject to a premium of 1½ to 3½ per cent. in consequence of rise in prices of material and other war exigencies.

GLASS (IN CRATES).

	15 oz.	21 oz.	26 oz.	32 oz.
English Sheet Glass.....	63d.	73d.	84d.	94d.
Fourths.....	73d.	84d.	94d.	10d.
Thirds.....	73d.	84d.	94d.	—
Fluted Sheet.....	73d.	84d.	94d.	—
Hardley's English Rolled Plate.....	4½d.	5½d.	6½d.	7½d.
Figured Rolled.....	6½d.	7½d.	8½d.	9½d.
Roussine.....	6½d.	7½d.	8½d.	9½d.
Stippolyte.....	6½d.	7½d.	8½d.	9½d.

Members of the Amalgamated Society of Carpenters and Joiners have been forbidden by their executive to work with German prisoners.

The Edith Cavell Home within the London Hospital grounds, which is now nearly completed, will be opened early next month. Sir George Frampton's bust of Miss Cavell, which is to stand in the nurses' sitting-room at the home, will then be unveiled.

Mr. Humphrey Wroe Roberts, of Prospect Hill, Pendleton, and Fountain Street, Manchester, solicitor, who died on February 3, aged fifty-five, has left a fortune of the value of £126,948, including personalty of the net value of £102,851. He bequeathed £300 to the incumbent and churchwardens of St. Thomas's Church, Pendleton, towards an enlargement of the chancel.

TO CORRESPONDENTS.

We do not hold ourselves responsible for the opinions of our correspondents. All communications should be drawn up as briefly as possible, as there are many claimants upon the space allotted to correspondents.

It is particularly requested that all drawings and all communications respecting illustrations or literary matter, books for review, etc., should be addressed to the Editor of the BUILDING NEWS, Effingham House, 1, Arundel Street, Strand, W.C.2, and not to members of the staff by name. Delay is not infrequently otherwise caused. All drawings and other communications are sent at contributors' risks, and the Editor will not undertake to pay for, or be liable for, unsought contributions.

When favouring us with drawings or photographs, architects are asked kindly to state how long the building has been erected. It does neither them nor us much good to illustrate buildings which have been some time executed, except under special circumstances.

**Drawings of selected competition designs, important public and private buildings, details of old and new work, and good sketches are always welcome, and for such no charge is made for insertion. Of more commonplace subjects, small churches, chapels, houses, etc.—we have usually far more sent than we can insert, but are glad to do so when space permits, on mutually advantageous terms, which may be ascertained on application.

TERMS OF SUBSCRIPTION.

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**Our Direct Subscription Agents for Australia are Messrs. E. T. Kibblewhite and Co., Printers and Publishers, 19, York Chambers, 105, Liverpool Street, Sydney, New South Wales; for Japan, The Maruzen Co., Ltd., 11-16, Nishinabashi Tori Sanchoe, Tokyo who will receive Subscriptions at £1 10s. per annum on our account. Copies of the paper will be sent by us direct to the subscribers' address.

**The special rate to Canada is £1 10s. = \$7 30c. for 12 months, and 15s. = \$3 65c. six months. Our Direct Subscription Agents for Canada are Messrs. Sells, Ltd., 302, Shagbushy Buildings, McGill Street, Montreal, who will receive Subscriptions, £1 10s. per annum, on our account.

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All Situation and Partnership Advertisements must be prepaid.

Rates for Trade Advertisements on front page and special and other positions can be obtained on application to the Publisher.

The charge for Competition and Contract Advertisements, Public Companies, and all official advertisements is 1s. per line of Eight Words, the first line counting as two, the minimum charge being 6s. for 50 words. Special terms for series of six insertions or more can be ascertained on application to the Publisher.

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Replies to advertisements can be received at the Office, Effingham House, 1, Arundel Street, Strand, W.C.2, free of charge. If to be forwarded under cover to advertiser, an extra charge of Sixpence is made. (See Notice at head of "Situations.")

RECEIVED.—P. A. Co., Ltd.—W. W. and Son—H. of M.—J. B. and Co.—Sir J. S. M.—T. R. J. M.—C. J. W.—W. and S.—H. L.—C. P. and Co.—A. Manufacturing Co., Ltd.—H. H. and Son—J. B.—T. H. C.—A. H.—P. C. B. and Co.

P. S.—Yes.

T. H. W.—Please send.

STRENUOUS.—No; why should we?

E. L.—Cannot say whether the firm still exists. Those more alive to the need of publicity will be found in our "Directory" pages.

J. ELLIS.—We agree with much you say. We have had several more or less similar letters, but with our present limited space it is impossible to find room for them. On the whole the competitions were not successful, and the great majority of the designs submitted were evidently from competitors quite unfamiliar with the real needs in industrial dwellings.

THE BUILDING NEWS

AND ENGINEERING JOURNAL.

Effingham House.

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OUR ILLUSTRATIONS.

St. Ouen, Rouen, Normandy. An etching by Captain W. H. Ansell, A.R.P.E., from the exhibition of the Royal Society of Painter-Etchers, Pall Mall.
--

Strand, W.C.2

Sir H. Drummond Chaplin's house, Johannesburg, South Africa. View of garden front and detail photograph of bay window and pergola on the terrace. Mr. Herbert Baker, F.R.I.B.A., Architect.

Housing of the Working Classes, England and Wales. First premiated design. Manchester and Class A Liverpool Districts. Designs by Messrs. Briggs and Thornely, F.F.R.I.B.A., Architects.
--

Currente Calamo.

Some six months ago, when the gutter press was writhing in anguish over the exports of cement to Holland, alleged to have been used to construct German "pill-boxes," we ventured to suggest that it might be as well to wait till facts had been elicited, and that it was extremely unlikely anything of the sort had occurred. The Government having promptly stopped exports of cement and then instituted inquiry, the report of the committee appointed by the Foreign Office has now been issued as a White Paper [Cd. 9023]. The committee have found that no evidence was forthcoming that British cement was used in the construction of German defences; and, as any one who knew anything about cement was well aware, there was in Germany a surplus of cement available for neutrals—Germany being the largest European producer of cement for export. Not only have the committee been unable to discover any valid reason to discourage the export of cement from the United Kingdom to Holland, but they believe that that trade is detrimental to the enemy. Holland must have cement for the maintenance of her dykes and drainage system, and Germany has taken advantage of this need to extort from Holland goods in exchange for cement. "If, therefore, this country could supply Holland with the whole, or even a substantial part, of her requirements of cement, one of Germany's instruments of pressure would be removed, or at any rate greatly mitigated." On the evidence, therefore, the committee "have no hesitation in recommending the immediate resumption of the export of cement to Holland when the political situation permits." The committee hope that their examination of the question may dispel the rather widespread impression that the enemy was deriving benefit from the British trade in cement with Holland. Anyhow, for six months the canard has helped to lessen our diminishing exports and harassed one more of the great building industries!

Builders who have kept, or for various reasons have had to keep, the houses they built for sale are interested in questions

affecting rents and rates. They frequently possess weekly property, which, though troublesome to private owners, is more easily and economically managed by those who can do their own repairs, as these are always the trouble. The Increase of Rent Act, 1915, passed to protect small tenants during the war, has raised some pretty legal points. One of these has just been settled in the recent case of "Steel v. Mahony," which arose upon the Act. The plaintiff was landlord and the defendant tenant of a small house, which before the war was let at 9s. a week, the landlord paying rates. In September, 1915, the landlord raised the rent to 10s.; then in December, 1915, came the Act. Shortly after this he served the tenant with a notice under the statute, setting out rent and rates, and claiming an increase of 8d. a week on pre-war rent of 9s. By a revision of the rates this 9s. 8d. was reduced to 9s. 4d., but the tenant would only pay the old 9s., so the landlord sued in County Court for the further 4d., where the judge was in his favour. The defendant tenant appealed to the High Court, where this judgment has been confirmed after legal arguments. The precise point made for the defendant was that, although the landlord could recover any higher rate he had to pay since the war began, this only applied to the rate itself, and not to any increase in the rateable value of the premises. The two judges of the Divisional Court did not take this view of the Act. They held that the landlord was entitled to charge the tenant for any increase in the rates chargeable and which he proved he had paid. The defendant contended that the landlord must accept the pre-war rateable value and reckon on that, although it had since been raised; and so could only claim an increase in the actual rate itself. This seems a very fine point indeed, and the judges held the landlord was right in claiming his whole excess outlay for rates, and so gave him his 9s. 4d., and dismissed the appeal, refusing the tenant leave to go any further.

Among the old mansions in the parish of Harefield, Middlesex, near Uxbridge, on the authority of Camden, it is said that Breakspears, a palatial residence on the road which bears its name, and which leads to Ruislip, takes its name from a family from whom Pope Adrian IV. was descended. Nicholas Breakspere was

elected Pope on December 3, 1154, on the death of Anastatius the Fourth, and assumed the title of Adrian IV. He died in 1159 as a result, it is said, of being choked by a fly. In 1371 William de Swanland granted a lease of sixty years to William Breakspears of a house and lands in Harefield which had been held by a John Grove "in bondage." Early in the fifteenth century Breakspere was in the possession of Mr. George Ashby, clerk of the Signet to Margaret of Anjou, Queen of Henry VI. He died at Breakspere in 1474, and was buried in Harefield Church. The estate continued in the Ashby family till late in the eighteenth century. In 1857 it was left to William Wickham Drake, who was commonly known as Squire Drake, and afterwards Admiral Sir J. Walter Tarleton, K.C.B., who was his first cousin, became the owner. The latter, who is also remembered in Harefield, died in 1889, and the property, according to the *Uxbridge Advertiser*, passed to Sir Walter's only son, the present owner. The site on which the house stands has been occupied from the very earliest periods of history, and from records it is shown that Breakspears was an important place of residence at the time of the Roman occupation of England, and formed the western position of the second line of the British defence against Julius Caesar.

Realising that the ownership of a home makes for better citizenship, the State of Massachusetts has gone into the business of building and selling workmen's homes on the instalment plan. The Massachusetts Homestead Commission selected Lowell, a large manufacturing centre, and chose a plot on which there is space for about fifty homes. The 1917 Legislature appropriated 50,000 dols. for the demonstration and on its success depends the size of future appropriations. The desire of the Homestead Commission, we learn from the *American Architect*, is to accommodate, as far as possible, citizens with families now living in crowded tenements and receiving only about 14 dols. a week. It was the belief of the Commission that a suitable house with four to five rooms, and with a small garden, could be provided for about 2,000 dols. with as small a cash payment as possible and a regular instalment of 15 dols. a month. These terms are based on a 9 per cent.

BLACKFRIARS.*

A NOTE BY THE WAY.

The name Blackfriars calls to mind the great Mendicant Order of the preaching friars of St. Dominic who for two centuries and a half occupied the area, until the first act in the historic drama here presented came to an end. As a result of the second General Chapter of the Order in 1221, a small band of brethren, on their way to Oxford, founded a house in London and soon settled in the parish of St. Andrew. Their quarters proving too confined, the friars secured a plot of land adjacent to the west wall of the City. Under the patronage of King Edward I and of his Queen Eleanor, and in the face of some opposition, their establishment was, at length, assured them. "In the year 1276," says Stow, "Gregory Rokesley Major and Barons of London granted and gave to Robert Kilwerbie Archbishop of Canterbury, two lanes or wayes next the street of Baynards Castle, and the Tower of Mountfichet to be destroyed. On the which place the sayde Robert builded the late new church, with the rest of the stones that were left of the sayde Tower. And thus the blacke Fryers left their church and house by Oldborne, and departed to their new. . . . Now here is to be noted, that the wall of London at that time went straight south of Ludgate, downe to the river of Thames, but for building of the Black Fryers Church, the said wall in that place was by commaundement taken downe, and a new wall made, straight West from Ludgate to Fleete-bridge, and then by the water of Fleete, to the River of Thames, etc."

In the next reign, of Edward II., we find the gift to the friars confirmed by charter and the monastery utilised during succeeding periods for discussion of many a weighty topic. Late in the sway of the friars we find King Henry VIII., in 1522, a guest of the Dominicans. Soon the hand of the despoiler was to be outstretched and submission to royal supremacy to be signed by the Prior. In 1538 the monks were deprived of their temporal possessions, and the curtain rung down on this the completion of the first act. But the Right of Sanctuary, which had attached during the tenure of the friars, continued, and it was not till well into the eighteenth century that the City authorities secured full jurisdiction over Blackfriars. A reflection of this sanctuary was to be seen as far off as the Strand end of Fleet Street, where, in Ram Alley, lawlessness prevailed for a long time. At the present day a slab announces that the alley is in the parish of St. Anne's, Blackfriars.

The second act opens with the granting of leases, of sales, and gifts by the Crown to favoured personages. In 1547, on the accession of King Edward, Sir Francis Bryan obtained the hall and the prior's lodging; while three years later Sir Thomas Carwarden, Master of the Revels, received the lion's share of the prey. Thus, in 1550, as Mr. Clapham informs us, Sir Thomas obtained "a grant of the church, cloister, chapter house, and part of the guest house, besides the churchyard and other yards and closes. . . . One building only, described as a hall for storing the king's revels, remained in the hands of the Crown."

As early as 1576 we find the buildings used for dramatic rehearsals, followed in 1596 by the acquisition of a hall in the dissolved priory by Burbage, the tragedian and fellow-actor with Shakespeare. A "Private Playhouse" was set up in the Frater of the Priory, where the drama was presented by candle-light and not by the light of day as in the open-air theatres of Bankside and Shoreditch. In 1613, to the brothers Burbage was assigned waste ground, which, in 1632, became the property of the Apothecaries when they entered upon new premises in the precinct. Playhouse Yard, adjacent to the *Times* publishing office, calls to mind the theatre in the Frater which lay across the present yard. It proved so successful as to endure to the suppression under the Puritan régime.

Londoners recollect with pride Shake-

spere's purchase of a house in Blackfriars. In the occupation of one William Ireland, it was built over a gateway and, situated in Puddle Dock Hill, it led to the house of the Earl of Northumberland. Well, to-day we have Ireland Yard with us, and, in Cloister Court, a house over an entry from St. Andrew's Hill, the street which runs down to Puddle Dock. A well in Shakespeare's time is to-day represented by a water-tap in the court. Harking back—although the existence of the parish of St. Anne had been admitted officially—Carwarden seized the parish church and employed it for the storage of the King's "Properties." In the next reign, however, "a lodging above a stair" was found for the parishioners. This falling down, a church was built by subscription and enlarged in 1613. The site of this church abuts upon Church Entry from the east. In 1623, when a Roman Catholic service was being held in the garret at the chief house of the Friary, the main beam of the floor snapped, resulting in the loss of many lives, the occasion being styled the "Fatal Vespers."

In the year 1666 came the Great Fire of London, when the whole area was devastated. Scarce a relic now survives to remind us of departed glories. The plan of the monastery has, however, been recovered by an ingenious piecing together of scattered items of information. Thus the church, begun in 1279, with its nave, aisles and choir, 200 feet in total length, lay to the north, the great cloister adjoining it on the south. To the west lay the guest-house and guest-hall, now exactly covered by the Hall of the Apothecaries. The infirmary with its cloisters was situated to the south-east, where Cloister Court now stands. Other buildings, of which there were many, were conveniently disposed, the whole covering about five acres and approximating to the present parish of St. Anne.

From time to time fragments have come to light. In 1855, when the *Times* office was under construction, a plinth and foundation of one of the buttresses of a big building was unearthed, while a portion of the church was seen in 1915. As regards the choir of the great church of the Friary to the east of Church Entry, excavations during the last two or three years have utterly removed all trace, without, so far as the present writer knows, any record being made of remains encountered. Above Church Entry towered the church steeple, a view of which is to be seen in Wyngaerde's panorama of London. A piece of rubble-wall in Ireland's Yard at the edge of the graveyard of St. Anne's now alone remains as a visible reminder of what has been in this vicinity.

The third act of our drama is associated with the *Times*, a newspaper which is still making history, and on which the curtain has yet to fall. A year after the Great Fire, the *London Gazette* was founded and printed here. The King's Printing Office, also set up at the same time, was in its turn destroyed by fire in 1737. New premises were left unoccupied from 1770 until 1784, when John Walter entered upon his tenancy. The *Daily Universal Register* was the outcome in 1785, and the world-famous *Times* in 1788. And who is there that can say that the influence of the Press has been less potent than that of the preacher or of the play-actor, or of Anne Page or of Doll Tearsheet?

Miss Genevieve Ward in "Both Sides of the Curtain" tells a story of an illiterate proprietor of a theatre in Sydney. He was rehearsing a new play, someone criticised the scenery and told him the perspective was wrong. He sent for the scene painter and said: "I didn't limit you to expense; why didn't you get the right perspective? Get another at once."

The course of lectures at University College, London, by Dr. Tameres Borenus on "Sixteenth and Seventeenth Century Art," postponed in the second term owing to Dr. Borenus's absence on war service, will be delivered in the third term on Tuesdays and Fridays at 5.15 p.m., beginning on April 30. Particulars may be obtained by sending a stamped addressed envelope to the Secretary, University College, London (Gower Street, W.C.1).

THE PROPOSED MOBILISATION OF CONSTRUCTIONAL FORCES FOR FOOD PRODUCTION.

An important subject is now being seriously considered by the Federal Government whereby the builders of Canada would be called upon to cultivate large areas of idle lands in the dominion, and all details are completed with respect to agricultural features, and, as here, the constructional forces of the country are practically idle. Work has dropped from 200,000,000 dols. worth of business in 1912 to 34,000,000 dols. in 1917, and these figures could easily be doubled if all the construction carried out by builders of railways, roads, canals, sewers, etc., were included. In Canada, as here, the great need is food production. On first thought it looked as if the work of men engaged in construction was far removed from that of tilling the soil. Finally, however, the possibilities of working out a complete programme whereby this great force could be utilised to fill the world need were realised, and the possibilities crystallised into a definite plan, and since that time Mr. J. P. Anglin, president of the Montreal Builders' Exchange, has devoted his entire time to working out details and completing the plan for the whole project. The plan has been submitted to Mr. H. B. Thompson, Chairman of the Canada Food Board, who, realising its possibilities, appointed a committee of the best agriculturists available to study and report upon its feasibility, and to make recommendations which could be placed before the Federal Government. The committee reported favourably, and made strong recommendations which are now being considered. Any contractor or engineer who has carried out building work and construction operations can readily see that, after all, it is not a very far step to tilling the soil. The contractor's business requires him to carry out a given piece of work in the open in schedule time in accordance with plans and specifications under the supervision of an architect or engineer. Now this project calls for exactly the same organisation and requirements, except that the work will be done under expert agricultural supervision using men and machinery. The idle lands adjacent to big cities might be worked and cropped this season, and even idle farms might be worked if it were possible to group them in sufficiently large areas, but the main programme calls for very extensive work on the prairies, where the greatest return, both in food and money, can be realised. It is suggested that the contractors in the various centres should join and register at the nearest builders' exchange, and that their names should be sent to the Builders' Exchange, Montreal, where the idea originated. It is proposed to break up this season 540,000 acres in the West and prepare them for crop in 1919. The programme further calls for the breaking up of an additional 540,000 acres in 1919, taking crop from 1,080,000 acres in 1920. Such a project would be a real factor in the food situation. These are days when men of all classes are entering upon work practically foreign to their usual occupations, and contractors would be serving civilisation effectively in furthering a project so vital to the winning of the war.

The next ordinary general meeting of the Surveyors' Institution will be held on May 6 at 5 p.m., when a paper will be read by Mr. H. A. Taylor on "The Metric System as it Affects Surveyors."

Lieut. Thos. Holt Fogg, Royal Engineers, who was killed in France on March 25, was thirty-five years of age, and was for some seven years before joining the Army in practice as an architect and surveyor, and was agent for the estates of Mrs. Lysley, of Pewsham.

Captain O. G. Hunt, King's Own (Royal Lancaster Regiment), missing, is one of seven brothers who have taken part in the war. He came home from Canada, where he was practising as an architect, early in 1915, and was gazetted to the Royal Lancasters. He was wounded at Loos, and has been mentioned in despatches. His father, Mr. Arthur William Hunt, who died in December, was head of the firm of Shrigley and Hunt, stained-glass decorators, Lancaster.

* From a paper read by Mr. William Martin, who acted as Guide of the visit paid by the Gilbert White Fellowship last Saturday.

HOUSING OF THE WORKING CLASSES IN ENGLAND & WALES

CLA

10 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

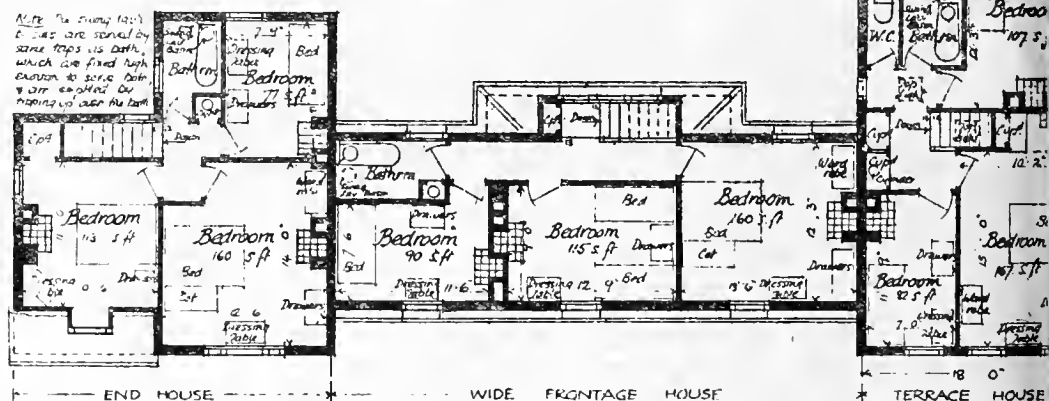


FRONT
for Rural

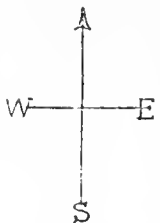


SECTION CD

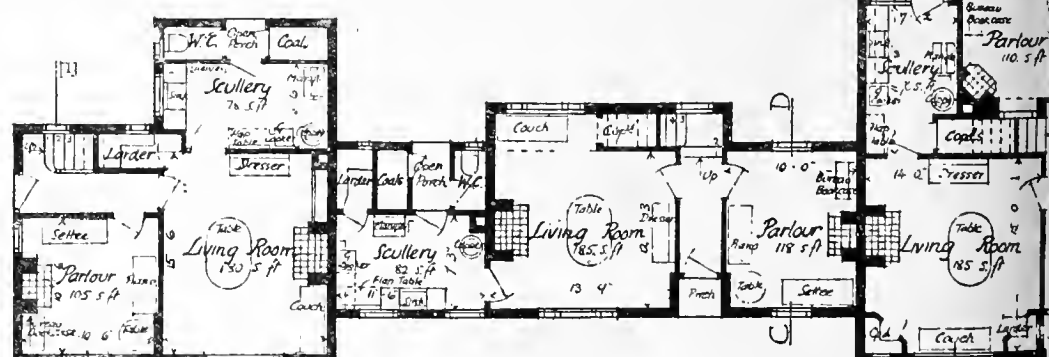
BACK ELEVATION



FIRST FLOOR PLAN



SHEET
No 1



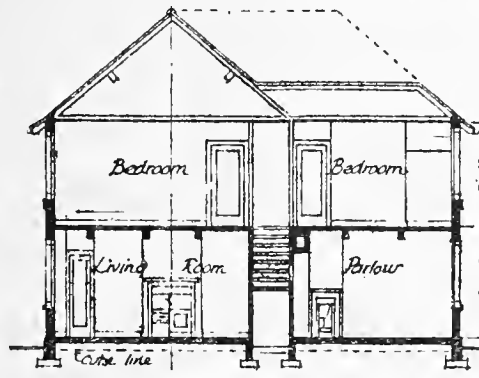
GROUND FLOOR PLAN

55 99
B
6" = 1'-0"
120 135 FT

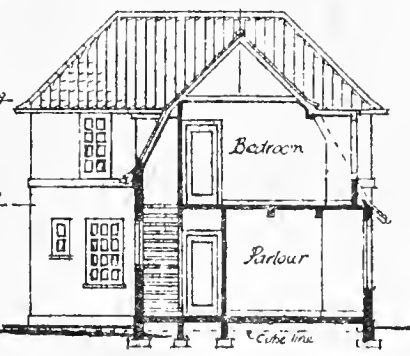
MANCHESTER & LIVERPOOL AREA



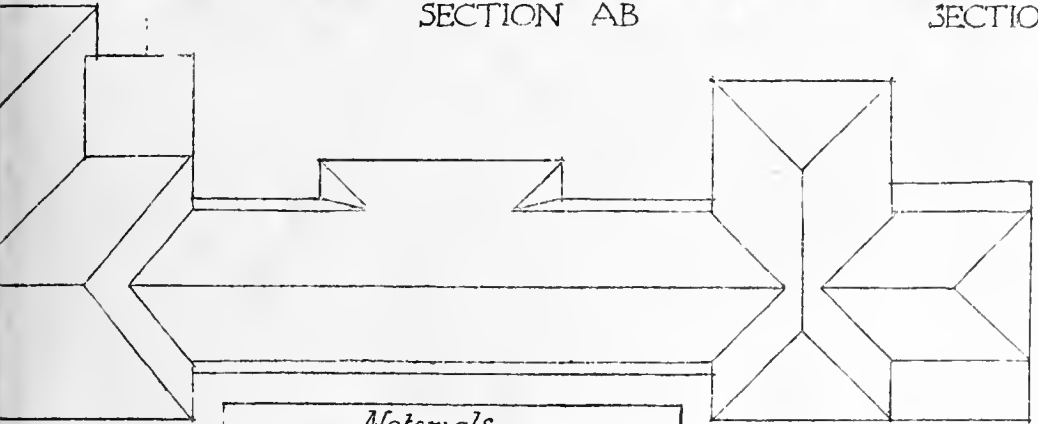
ELEVATION (Urban Areas)
Areas see Sheet 2



SECTION AB



SECTION EF



Materials

FOUNDATIONS Concrete footings & 9" brick walls up to floor level
EXTERNAL WALLS hollow furnace breeze concrete blocks 7" thick x 9" high x 3' 0" long External face cement rough cast 1" thick & skimmed with plaster inside
PRESENT PRICE of such blocks fixed complete & rough cast is about 5/6 per sq yd.
PARTY WALLS as above but without rough cast
INTERNAL WALLS & PARTITIONS furnace breeze concrete slabs 3" thick skimmed with plaster
CHIMNEY STACKS breasts & flues of brickwork throughout
IN DISTRICTS where suitable & cheap facing bricks are obtainable internal walls might be of brick 1 1/2" thick & party walls 9"
ROOFS Timber or small 8" Blue Stairs according to District
GROUND FLOORS Living Rooms, 6" PC concrete, trowelled surface, covered with thick brown linoleum, pasted down
Galleries & Bath Urn Houses, 6" PC concrete & red quarry tiles or granolithic, 1/2" & 9" Gags granolithic
FIRST FLOORS Reinforced concrete beams & 4" ft apart cast on the ground & lifted into position with 22 reinforced cast concrete slabs laid between surface fixed with cement & covered with linoleum USE OF TIMBER this avoided
WINDOWS Double hung sashes standardised in 3 sizes
CARPENTERS WORK, Spruce spars & birlins
JOINERS WORK External doors frames & windows of red deal Internal doors 2 1/2" of Spruce
HOT WATER SUPPLY Back boiler to Ranges 25 gal cylinder

Cubic Contents

Measured from 1 foot below floor to halfway up roofs, including chimney breasts
Hipped ends deducted
Terrace House 10 654 c.ft
Wide Frontage 11 076 c.ft
End House 10 812 c.ft

Note

The superficial areas of Rooms are given net after deducting chimney breasts and fixed cupboards

Our Illustrations.

ST. OÜEN, ROUEN, NORMANDY.

This excellent etching, by Captain W. H. Ansell, A.R.P.E., has been lent us by the artist from the recent exhibition of the Royal Society of Painter-Etchers in Pall Mall. The steeple of St. Ouen is shown at the end of the vista through the well-known Rue Damiette, one of the very few old streets still remaining intact in the city of Rouen. The quaint gables of the old houses accommodating odd little shops and picturesque little cafés set off the famous lantern of this florid fourteenth-century church, surmounted by the ducal crown and open traceries in stone. The later parts of the fabric date from the sixteenth century, but the subject is so familiar that little need be further said in regard to it.

SIR H. DRUMMOND CHAPLIN'S HOUSE, JOHANNESBURG, S.A.

The house, of which we give two photographs, stands on a narrow ledge half-way up a kopje, which forms part of the great ridge of the plateau which runs east and west, about two miles north of Johannesburg, overlooking a very expansive view to the north, and at this part a large forest of eucalyptus trees immediately below. The lower slopes of the kopje itself are also well covered with eucalyptus and pine trees. The ledge is so narrow that there is only just room for the house, which stands in front on the upper edge of the steep rocks, and for the forecourt, which is partly excavated out of the high ground behind. A feature of the plan is the deep vaulted stoep in the centre of the house, which protects the dining-room from the northern midday sun. This room is lit with a large mullioned window, continuous for the full length of the room, which, in spite of the depth of the verandah, is fully and pleasantly lit. The view of the forest and distant mountains through this long dining-room window, framed by the white columns of the loggia, is a magnificent one. The large living room is lit on the east side in the same manner as the dining-room—there is, with a continuous low mullioned window, protected from the eastern sun by a covered stoep. On the north, or hot, side a very special desire was expressed for a big high bay window, and the problem was to obtain this northern feature without an excess of heat and glare in the middle of the day. For this reason small buttresses were built to the mullions and hooded transoms, which enabled louvred shutters to be fixed to the lower portions of the window. The big tiled eaves protect the upper part of the window from the sun. By such treatment of the windows the light and heat from the sun has been pleasantly regulated to suit the extremes of climate of the mornings and evenings and of the winter and summer. The steep and richly lichen-coloured rocks on which the house sits have been pleasantly planted with a fine variety of flowering aloe, cotyledons, mesembrianthemums, and other sub-tropical plants. Rough stone steps lead down through these rocks to a long terrace, which overlooks a formal garden below. Mr. Herbert Baker, F.R.I.B.A., of Westminster and Johannesburg, is the architect.

HOUSING OF THE WORKING-CLASSES IN ENGLAND AND WALES.—FIRST PREMIATED DESIGN, CLASS "B": MANCHESTER AND LIVERPOOL AREA.

This chosen scheme is intended for urban districts in the Midland area, allocated to Manchester and Liverpool. The First Premium was awarded to this design, submitted by Messrs. Briggs and Thornely, of Royal Liver Building, Pier Head, Liverpool. Stress was laid upon the advantage of contriving the bath in a separate apartment in all three of the schemes, "A," "B," and "C," sent in for these national competitions by Messrs. Briggs and Thornely, instead of following the more usual arrangement of placing the bath in the scullery, because that position for the bath prevents all access to the scullery, larder, back door, w.c., and coal-place, besides greatly discouraging the use of the bath. The conditions stated that the wide-frontage house should be "one room deep only," but

in the opinion of this firm of architects this allowance precluded the placing of one bedroom behind another, and necessitated through lighting for living rooms and parlours. This accounts for the wider frontage in these plans by Messrs. Briggs and Thornely as compared with many submitted. The authors urge that if the promoters intended merely to have had a through-lighted living room only the conditions ought to have made that intention more clearly stated. The specification on the drawings here reproduced gives full particulars as to the materials intended to be used, and a table of the cubical contents is furnished in an abstract form, all the dimensions being carefully figured on the plans and sections. The design submitted under class "A" by Messrs. Briggs and Thornely combines the bath-room with the washhouse, thus keeping the steam free from the scullery and other parts of the dwelling, besides allowing the bath to be used for soaking clothes. This scheme has very much to recommend it. In class "C" the bath-room is on the upper floor. We reviewed the competition plans for the Manchester and Liverpool area in our issue for February 20 last. All the rooms in the houses by Messrs. Briggs and Thornely are well lighted, and the apartments have ample through ventilation in the long-fronted houses. During the last two weeks we have illustrated their plans for classes "A" and "C."

COST OF BUILDING BEFORE AND AFTER THE WAR.*

BY ERNEST H. SELBY (VISITOR).

(Continued from page 310.)

Taking the constructional part first: the cost of materials manufactured in this country will, in my opinion, soon return to about the pre-war cost, that is to say, within about 15 per cent., with the exception of constructional steelwork, of which very large quantities will be required for shipbuilding: ferro-concrete ships will have to be proved, and I understand there are many serious objections to their use. However, the enormous increase of plant for producing steel all over the world may very shortly reduce the price considerably. If different methods are adopted of dealing with labour on the job, here again, I think, the cost of output will not be more than 20 per cent. to 25 per cent. additional, so that the cost of the constructional work ought not to exceed 18 per cent. over pre-war prices.

The finishings, however, stand on a different footing, especially with regard to timber. The cost of finishings will, in my opinion, be increased at least 35 per cent., so that, taking ordinary buildings, the extra cost will be about 27 per cent., and factories and buildings, when the finishings are of small moment, about 22 per cent. above pre-war prices.

In arriving at these figures, I am, of course, assuming that normal conditions obtain, and that the Army and Navy have been reduced to reasonable proportions, and that the work of re-housing in war devastated areas has been well started, so that the people of those areas are able to grapple with the remaining problems themselves.

How long this will take, and how much assistance we shall be called upon to render, entirely depend upon how much longer the war lasts, and how much more damage is caused, and what further districts become involved.

Taking a reasonable view, as far as any view can be called reasonable, twelve to eighteen months ought to be sufficient in which to render the necessary assistance to our Allies, before we can turn our attention entirely to our own wants, although after about nine to twelve months, as already stated, a large number of men ought to be available for building work at home.

The question of the price of all materials will largely depend upon the amount of materials we shall be called upon to supply to other countries, as during the time the competition between the home and foreign

markets exists there will not be very much likelihood of prices returning to the normal, nor is it at all probable that we shall be able to obtain many building materials from abroad for some time.

The arrears of building operations and repairs in this country will be so large that for at least another ten years after we have returned to normal conditions there will be no prospect of reduction in cost through supply exceeding demand.

Housing schemes for the working classes, and above all convalescent and permanent homes for wounded and disabled soldiers and sailors, will have to be taken in hand at once, and ought to provide plenty of work for those now engaged on solely war buildings as and when they are discharged, so that the men are not out of employment whether the war is finished or not.

The control by Government of certain industries and trades after this period ought to be ended, as by that time they ought not to be the largest buyers in the market.

I have not considered the question of strikes in the building trades, as I hope after all we have been through some better method will be found of solving labour problems than the suicidal methods adopted during the last fifty or sixty years whereby a large portion of trade has been lost to this country.

Before concluding this paper I think one matter ought to be considered, and that is the placing of contracts after the war. For the first few years great difficulties will be experienced in estimating owing to the unknown cost of labour and the varying prices of materials, and the fairest and most economical method will be for work to be placed at cost with a fixed profit, and the necessary precautions taken to check same so as to arrange for finance. In this way it will be possible to compile prices that will meet the new conditions and so enable contractors to submit close and firm estimates.

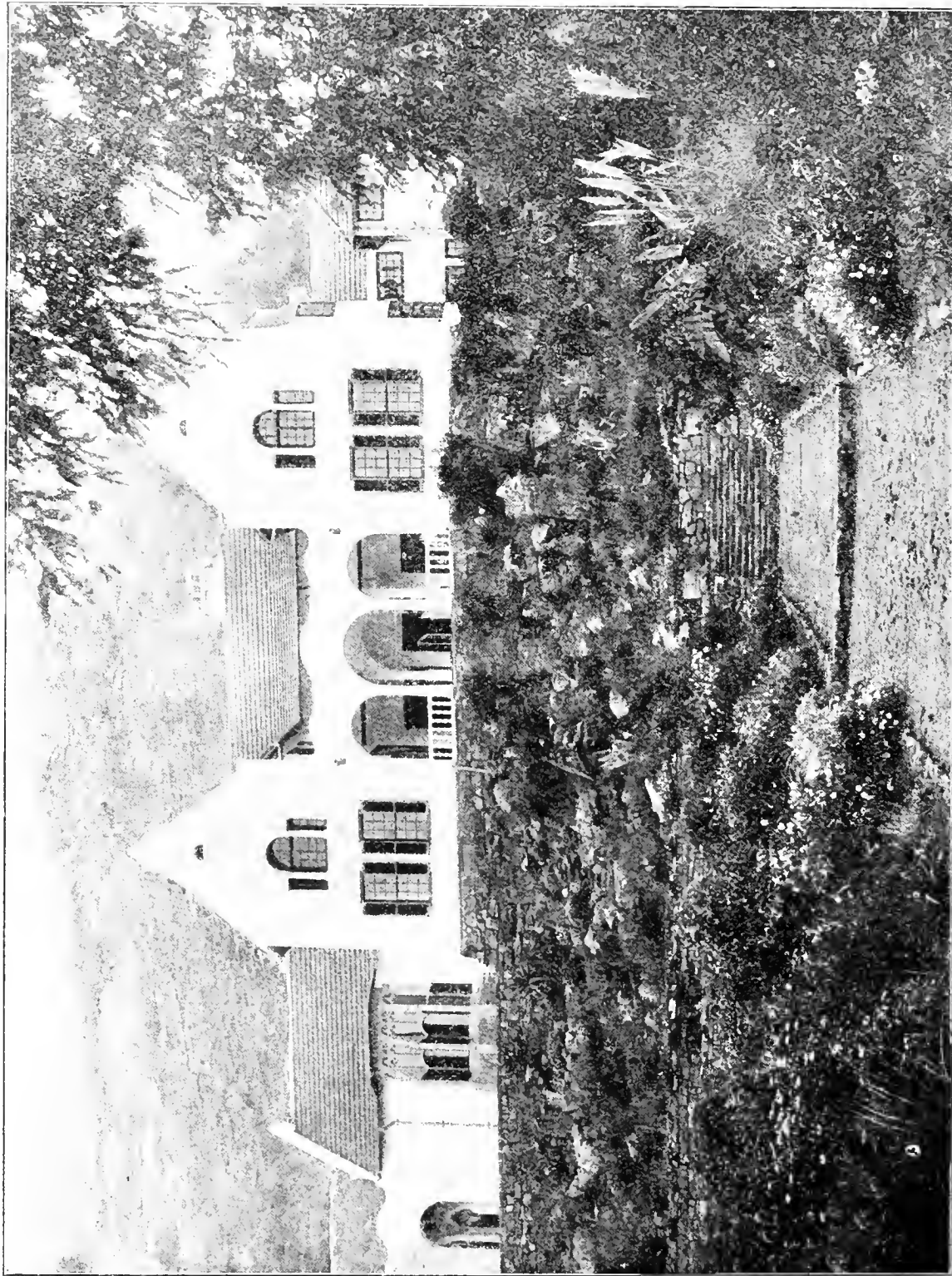
As soon as building operations can be accurately tendered for and placed in the hands of contractors so soon will the cost of buildings be brought down, as from their experience they should be able to carry out the work in the most expeditious and economical manner. The incentive of turnover and profit will always bring out the greatest energy and initiative of the individual, and if this great war produces a better and more human element between employers and employees, resulting in unremitting application, hard work, and enterprise all round, enabling us to hold our own and resume our old position of supremacy during the difficult period of reconstruction after the war, it will not have been fought in vain.

OBITUARY.

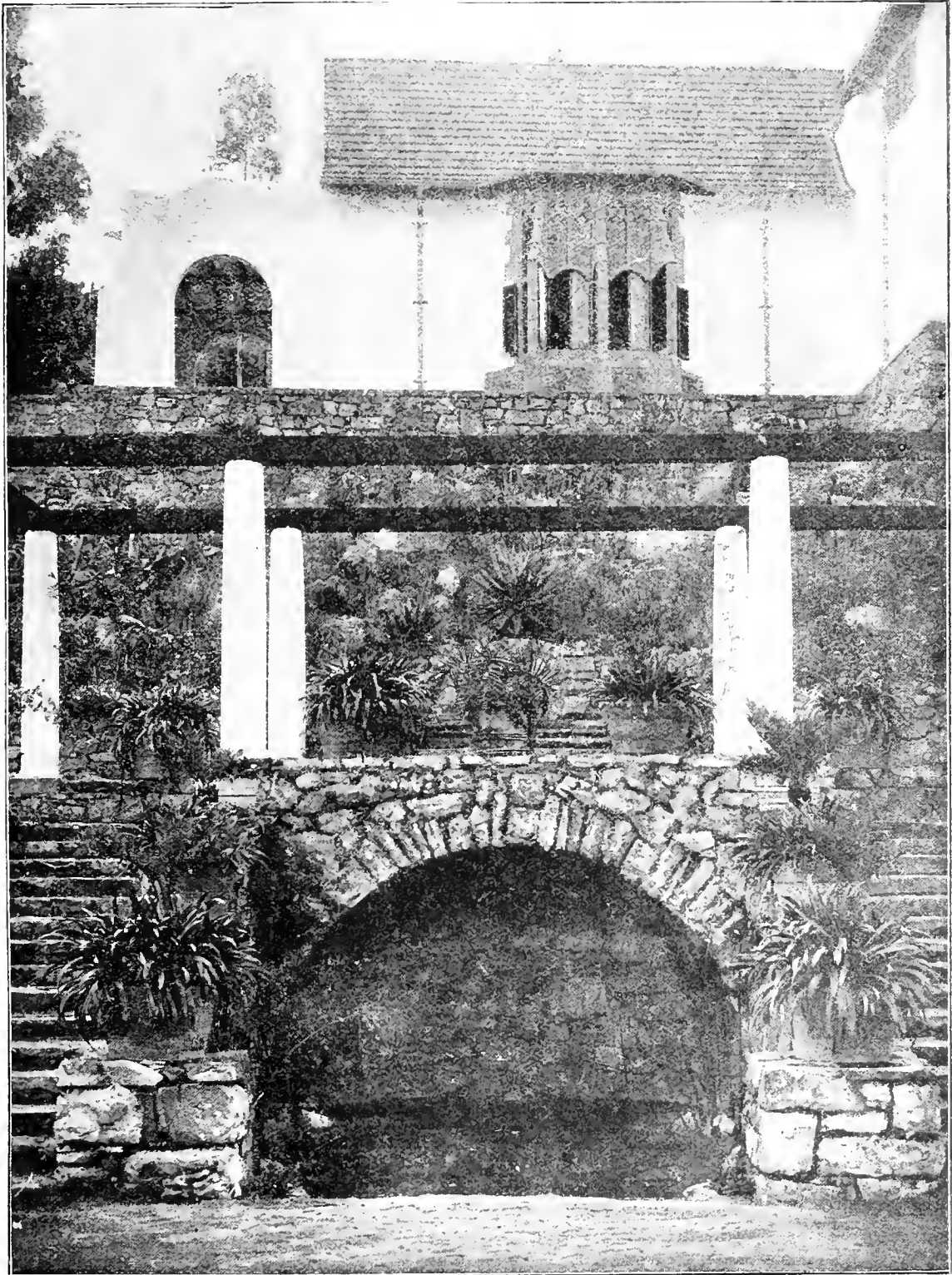
Mr. William A. Scott, A.R.I.B.A., A.R.H.A., M.S.A., F.R.I.A.I., who died at Cannes last Saturday, had been Professor of Architecture in the National University of Ireland since 1911. He was born in Dublin in 1871, the son of Anthony Scott, architect, and Catherine Hayes, and studied at the Metropolitan School of Art, Dublin, entering later the office of Sir T. Newenham Deane and Son, afterwards spending some years in London architects' offices, and holding an appointment under the London County Council. He returned to Ireland in 1902, where he designed and carried out the O'Growney Mausoleum, Maynooth, the Garden Village, Kilkenny, the Town Hall, Cavan, St. Mary's College, Galway, and other works for churches and schools. Mr. Scott studied and sketched in many continental countries. He held various posts in Irish architectural societies, and had been Honorary Examiner of Planning and Design to the Society of Architects. He married in 1900 Catherine, daughter of Mr. Patrick Crumley, M.P., and has left no children.

Second Lieutenant Leslie John Pickrell, R.F.A., killed on March 29, aged 23, was articled to a firm of surveyors in Lincoln's Inn in 1913. On the outbreak of war he joined the Artists Rifles, and went to the front in 1915. In 1916 he took a commission in the R.F.A., and saw three years' service at the front.

* Read at the Ordinary General Meeting of the Surveyors' Institution, held on Monday, April 8, 1918.



SIR H. DRUMMOND CHAPLIN'S HOUSE, JOHANNESBURG, S.A.
Mr. HERBERT BAKER, F.R.I.B.A., Architect.

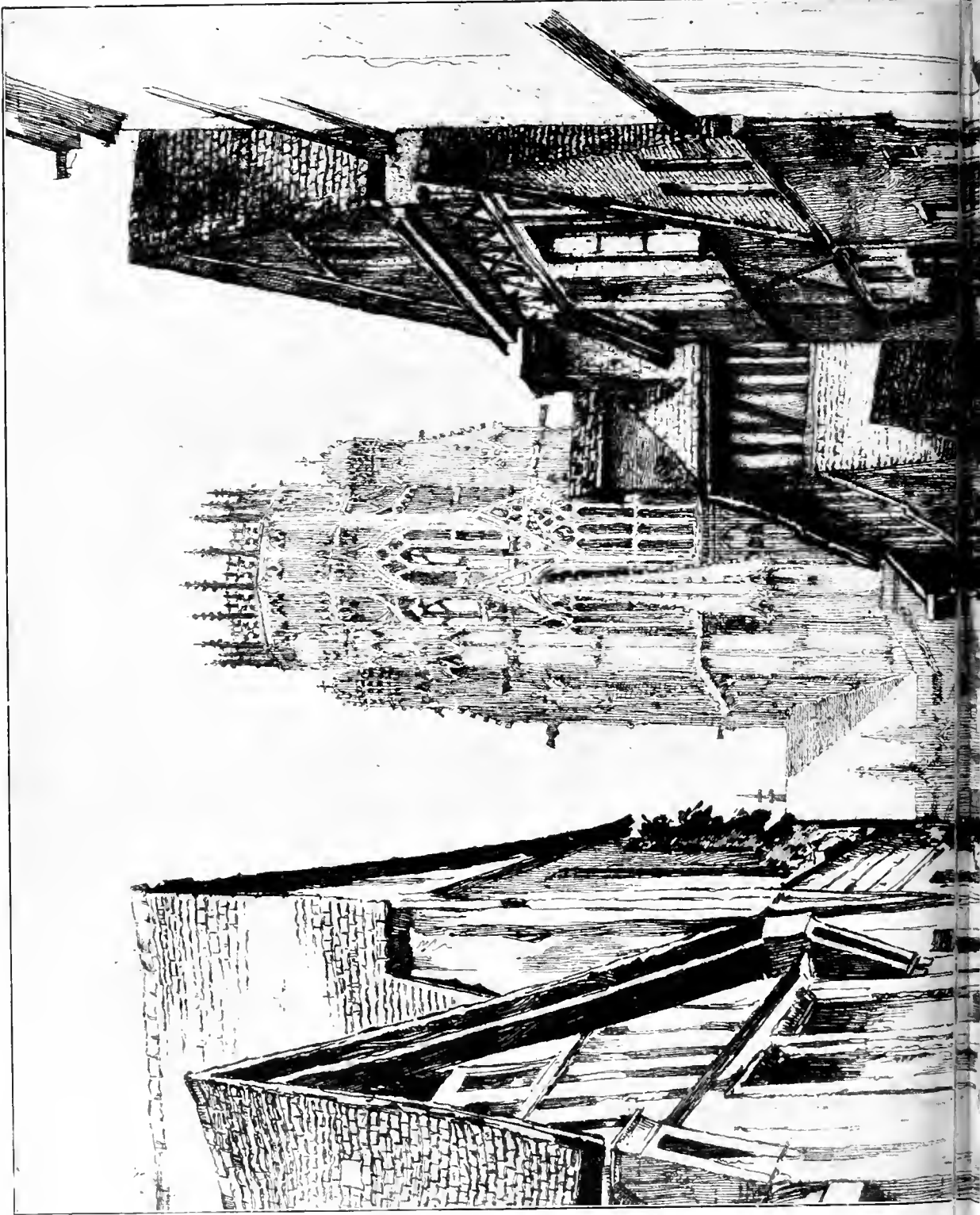


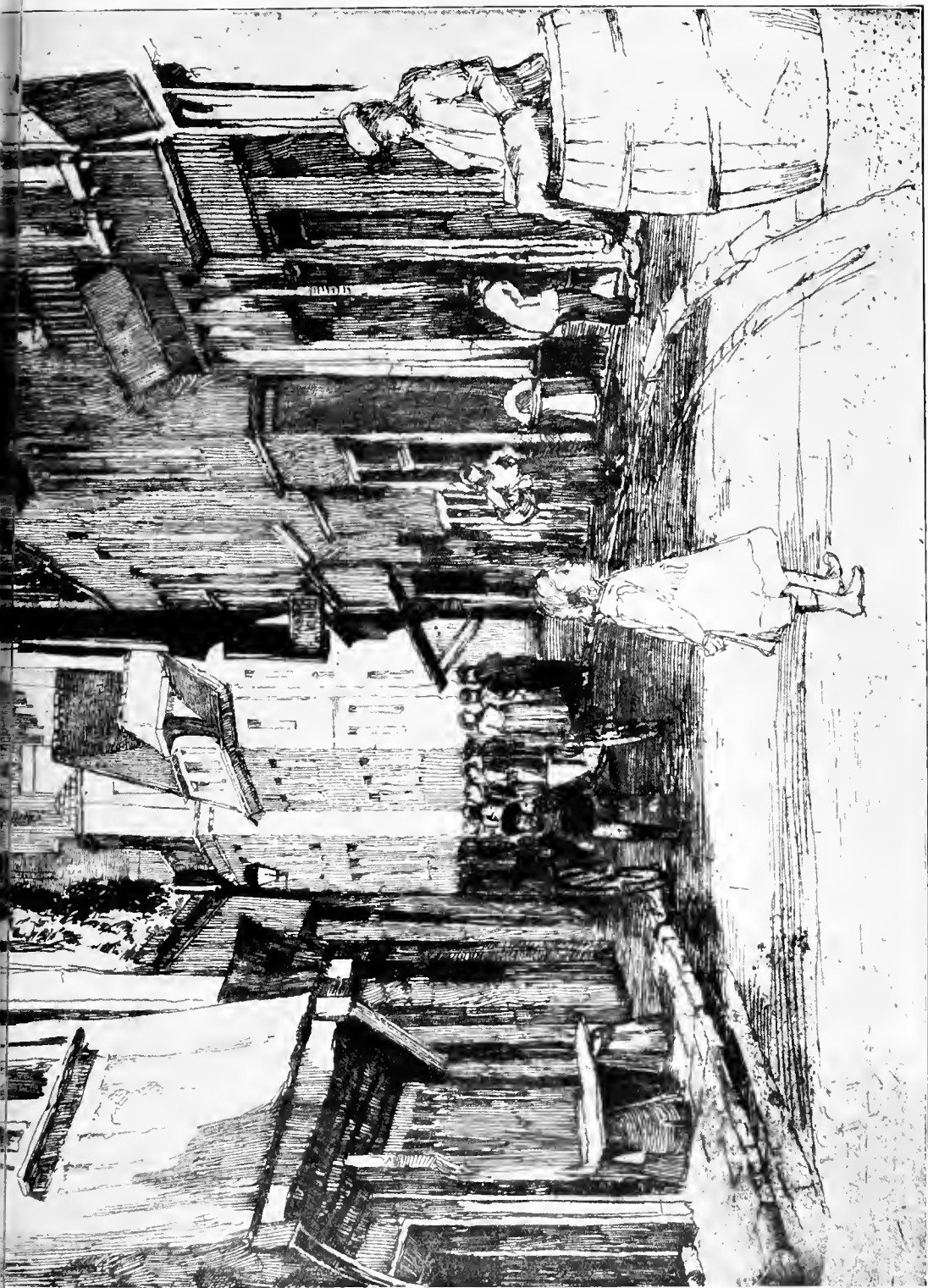
SIR H. DRUMMOND CHAPLIN'S HOUSE, JOHANNESBURG, S.A.
BAY OF THE TERRACE FRONT AND PERGOLA.

MR. HERBERT BAKER, F.R.I.B.A., Architect.



THE BUILDING NEWS, APRIL 24, 1918.





ST. OUVEN, ROUEN, NORMANDY.

An Etching by Captain W. H. ANSELL, A.R.P.E.

(From the Exhibition of the Royal Society of Painter-Etchers, Pall Mall, 1918.)



PROFESSIONAL AND TRADE SOCIETIES.

ABERDEEN.—At the recently held annual meeting of the Aberdeen Society of Architects the members elected as the council for the ensuing year Mr. Harbourn Maclellan as president, Mr. George Watt as vice-president, Mr. George Mitchell as treasurer, Mr. R. G. Wilson, jun., as secretary, and Messrs. W. J. Devlin, W. Kelly, A. H. L. Mackinnon, J. R. McMillan, and J. Rust as ordinary members. The Aberdeen Society is one of the Chapters of the Institute of Scottish Architects, and Mr. William Kelly was elected to represent this Chapter on the Institute Council, while the president of the society as ex-officio a vice-president of the Institute is therefore also a member of the council. In view of the establishment at Inverness of a Chapter of the Institute of Scottish Architects, with the North of Scotland as its province, the province of the Aberdeen Chapter is now the counties of Aberdeen, Banff, and Kincardine, and the membership of the latter Chapter numbers twenty-three, three members having been added during the past year.

EDINBURGH ARCHITECTURAL ASSOCIATION.—At the annual general meeting of the Edinburgh Architectural Association last Wednesday night, the president, Mr. T. Forbes Maclellan, A.R.I.B.A., in his valedictory address, spoke of the work being done by the Council of the Institute of Scottish Architects, of which the Association was now a chapter. They were rapidly getting their house into order, in view of the many changes and great opportunities that would undoubtedly come to their profession at the close of the war. In all they were doing they kept before them the interests of those members who were on active service, to whom they owed a debt which they could never repay. The following office-bearers were elected:—President, Mr. T. P. Marwick, A.R.I.B.A., F.S.I.; Past President, Mr. Maclellan; Vice-Presidents, Mr. W. T. Oldrieve, F.R.I.B.A., and Mr. T. Aikman Swan, A.R.I.B.A.; Hon. Secretary, Mr. James Kerr, F.F.S., 122, George Street; and Hon. Treasurer, Mr. W. G. Walker, C.A. Committees were also appointed.

THE GILBERT WHITE FELLOWSHIP.—The inaugural meeting of this society, started to continue the study of natural history and antiquities, was held last Saturday, when a visit was paid to Blackfriars. Mr. William Martin, M.A., LL.D., F.S.A., acted as guide. From Thursday to Saturday next meetings of the Cowper, Blake, and John Payne Societies will be held at Richmond, London, and Hampstead, and members of the fellowship are invited to attend, and may obtain tickets and all particulars from Thomas Wright, Esq., Cowper School, Olney, Bucks. A stamped addressed envelope should be enclosed. On Saturday, May 4, a field-path and woodland walk will be taken from Oxted to Westerham and back. Members joining the morning party should take return tickets to Oxted by train leaving Victoria (L.B. and S.C.R.) 11.5 (Clapham Junction, 11.12), and should take lunch. Those joining the afternoon party should take single tickets to Westerham by S.E. train leaving Cannon Street 2.0, London Bridge 2.3. On May 11 there will be a ramble to Merstham, Chipstead, and Conlson. Guide, G. J. B. Fox, Esq. On Wednesday to Saturday, May 29 to June 1, the annual congress of the South-Eastern Union of Scientific Societies will be held in London under the presidency of Sir Daniel Morris, K.C.M.G. The Gilbert White Fellowship is affiliated to the S.E.U.S.S., and members are admitted to the congress on payment of 3s. Tickets and all particulars may be obtained from the hon. secretary, H. Norman Gray, Esq., F.S.I., 354, Commercial Road, E.1.

THE LONDON SOCIETY.—The sixth annual general meeting of the London Society was held yesterday in the hall of the Royal Society of Arts, the President, the Right Hon. the Earl of Plymouth, P.C., C.B., D.L., in the chair. The annual report, 1917-18, and the balance-sheet with a statement of income and expenditure

for the year ending December 31, 1917, were presented. The report stated that the development plan of Greater London is completed, but, owing to the serious depletion of their staff, Messrs. Stanford have not yet been able to entirely finish the reproduction of the whole of it. For some time past the society has felt that a fitting complement to the development plan—which was worked out on the 6 in. Ordnance sheets and reproduced to 3 in. scale—would be a map for improvements in the heart of London. This naturally must be evolved on a larger scale—probably the 25 in. The committee which has undertaken this scheme is as follows:—Sir Aston Webb (chairman), Professor Adshead, Mr. Arthur Crow, Mr. W. R. Davidge, Mr. E. T. Hall, Mr. H. J. Leaning, Mr. D. Barclay Niven, and Mr. Paul Waterhouse. After a few preliminary meetings they discovered that the railways of London dominated all suggestions, and a Railway Subcommittee was appointed (Professor Adshead, Mr. Davidge, and Mr. Leaning) to produce a practical scheme. The society have again been compelled to oppose in Parliament the proposals of the South-Eastern and Chatham Railway Company's Bill for the strengthening of the Charing Cross railway bridge. The Bill was introduced in the House of Commons and opposed on the second reading by Sir Walter Essex, Mr. John Burns and others, but the second reading was carried by a large majority. It was again opposed on the second reading in the House of Lords by Lord Plymouth, Lord Ribblesdale, Lord Crewe and Lord Curzon, but it was passed on a division and referred to a Select Committee. The London Society and the Royal Institute of British Architects secured the valuable services of Mr. Honoratus Lloyd, K.C., as counsel, and Lord Plymouth, Lord Ribblesdale, Mr. John Burns and Sir Aston Webb gave evidence, with the result that the Committee passed the preamble with the provision that no work should be done above the high-water line for three years after the passing of the Act, and that no extension of the station should take place without a further application to Parliament. There has been no falling-off in the old membership, but twenty-nine new members have been added. At the conclusion of the business meeting, the Rev. W. H. Carnegie, M.A., rector of St. Margaret's Church, Westminster, Canon of Westminster Abbey, and Chaplain to the House of Commons, gave a lecture on "St. Margaret's Church, Westminster," detailing its origin, pre-reformation history, subsequent alterations, connection with the Abbey, with the House of Commons, with municipal life, the Westminster tobacco box, records, ornaments, monuments, some interesting epitaphs, present position and future possibilities, which was followed by discussion and votes of thanks.

LEGAL INTELLIGENCE.

AN INVOLVED VERDICT.—Mrs. Sarah Bowes, of Aigburth, Liverpool, brought an action last week at Liverpool Assizes for damages against Messrs. Horrocks Bros., builders, of Wallasey, for defects in a dwelling-house owing to subsidence. The case for the plaintiff was that in 1909 she bought the newly-built dwelling-house 19, Malpas Road, Wallasey. Last year there was a subsidence, which affected the gable wall, the ceilings, and the floors of the house. New foundations were put in, and these, together with the loss of rent, amounted to £295, for which amount Mrs. Bowes claimed. The defence was that the house was built upon sound and proper lines on approved plans, and that the builders could not be held responsible for a subsidence that occurred eight years after the residence was built. Replying to questions submitted by the judge, the jury, after lengthy deliberation, found that there were substantial defects in the construction of the house when it was sold to the plaintiff; that the defendants were aware of the defects; that the defects were not such as the plaintiff could be expected to discover with ordinary care; that they were such defects that would have prevented plaintiff from buying the house if she had known of them; that the defendants were not fraudulent in not disclosing the defects; and that the plaintiff was entitled to recover £100 damages. The judge, on these findings, reserved judgment pending legal argument in London.

Our Office Table.

The Increase of Rent and Mortgage Interest (War Restrictions) Act, passed in 1915, which fixed for the period of the Act all rents of houses under certain limits of value, and the rates of interest of mortgages on such houses, at their pre-war figure, expires six months after the war. In view of the dearth of houses and the increase in cost of building, difficult questions arise as to the policy which should be pursued by the Government. The Minister of Reconstruction, after consultation with the President of the Local Government Board and the Secretary for Scotland, has therefore appointed a committee to consider the legislation embodied in the Increase of Rent and Mortgage Interest (War Restrictions) Act, 1915, as amended, in relation to the housing of the working classes after the war, and to recommend what steps, if any, should be taken to remove any difficulties which may arise in connection therewith. The committee is constituted as follows:—Lord Hunter, W. J. Board, Esq., Edwin Evans, Esq., L.C.C., Judge Mellor, K.C., C.B.E., B. S. Rowntree, Esq., Rt Hon. W. Crooks, M.P., E. M. Gibbs, Esq., F.R.I.B.A., W. B. Neville, Esq., and W. G. Wallace, Esq. (Secretary). Communications should be addressed to the Secretary, 2, Queen Anne's Gate Buildings, S.W.1.

Messrs. W. H. Smith and Son, 186, Strand, are commissioned to distribute three million copies of Prince Lichnowsky's "Memoirs," memoirs which reveal in so striking a manner the perfidious conduct of Germany as disclosed by her ambassador. We urge all leaders of opinion, especially in the industrial towns and the remote villages to help Messrs. W. H. Smith and Son to give the widest publicity to this pamphlet. To all applicants naming this journal a supply will be sent carriage paid, and prompt distribution, especially in districts where "Pacificists" and other treacherous friends of the enemy are endeavouring to poison public opinion, will be good national service at the present juncture.

The Committee on Production recently considered an application for a bonus of 12½ per cent. on earnings, made by various trade unions on behalf of their members, being building trade operatives, in the employment of firms who are members of certain employers' associations. By their award, dated April 16, the Committee grant from the first full pay after April 11, 1918, a bonus of 12½ per cent. on earnings to plain time workers and 7½ per cent. on earnings to piece-workers engaged on constructional or maintenance work, such work being munitions work, carried out by employers in the building trade, whether as contractors or sub-contractors.

Mr. Percival S. Marling, of Sedbury Park, Chipping, drastically criticises some of the Government cottages at Beachley, Gloucestershire, supposed to be built—so Dr. Macnamara says—by the Admiralty as a "special case" for the benefit of fishermen in the national interest. Mr. Marling says in a letter to the *Times*:—"The Government have commandeered some 600 acres of land at Beachley, and have therefore ample space. They have erected two blocks of six hideous cottages, each on one of the most beautiful sites in England between the Severn and the Wye. The cottages erected are what you might expect in the East-End slums of London. The third bedroom is only 6 ft. 7½ in. by 6 ft. 1½ in. by 7 ft. 9 in. high. It is entirely opposed to all modern ideas of morality that, with only two bedrooms to a cottage (as one can hardly count the bedroom 6 ft. 7½ in. by 6 ft. 1½ in.), grown boys and girls should sleep together in one room, which must be the case in these cottages. The only window in the small larder opens on to a passage 3 ft. wide, exactly opposite the earth closet, which must be unhealthy, especially in the summer. Lord Henry Cavendish-Bentinck kindly asked four questions in the House of Commons on March 14 about the cottages. As regards Dr. Macnamara's statement in reply, that these cottages were built as a special case by the Admiralty in order

that the fishermen might, in the national interest, be kept within reasonable reach of their fishing ground, I would point out that three of the families who have been housed in the six cottages completed have no connection whatever with fishing. One of the men is a road labourer, another is a boiler-maker, who works at Newport, eighteen miles distant, and the inhabitant of the third cottage is a widow.

The Building Acts Committee of the London County Council has appointed Mr. W. J. Harcastle, district surveyor for St. George, Hanover Square (North), to be interim district surveyor for Chelsea, in place of Mr. T. E. Mundy, who resigned as from February 23, 1918, and have appointed Mr. L. R. Ford, district surveyor for St. James's, Westminster, to be interim district surveyor for Marylebone, in place of Mr. A. Ashbridge, who resigned as from March 21, 1918. The appointments of Mr. Harcastle and Mr. Ford are of a temporary nature and will continue only during the pleasure of the Council. Mr. Mundy and Mr. Ashbridge had been district surveyors for thirty-one and thirty-two years respectively, and upon their resignation letters were sent to them expressing appreciation of the efficient manner in which they had performed their duties. The Committee has consented under section 142 of the London Building Act, 1894, to the appointment of deputy district surveyors in three cases.

At the Norwich Tribunal last Wednesday, according to the *Norfolk News*, the Chairman, Major Berners, expressed surprise at a building engineer and contractor (38), who was originally in Class A, being now only in Grade III. "It is a most extraordinary thing," he said. "This man has a lot of Army contracts. The oftener he comes before this Tribunal the more Army contracts he gets, and the more Army contracts he gets the worse his health becomes." (Laughter.) A Member: "That is of course the result of overwork." (Laughter.) As the contractor is in Grade III, the Tribunal did not proceed with the case.

Our contemporary, *Timber*, thinks a temporary drop in values possible. Great Britain and France, the two large wood-importing countries in pre-war days, are now producing a very heavy percentage of their requirements out of home-grown timber; and, in addition to this, they have cut down their consumption far below the normal quantity. By the treaties which Germany has made with, or rather forced on, Russia and Finland, the long-stored Finnish wood productions are available for the neutral countries and for Germany; and thus we find that the countries which can most easily secure wood from the Baltic—Germany and Denmark, and, to a certain extent, also, Holland—have placed before them a far more considerable quantity than at any time since the war commenced. If the war continues, therefore, and if the Allies exploit their own forests to the fullest extent, in order to save tonnage, the effect on the Baltic prices must be in the downward direction. The shippers may, of course, prefer to hold their wood, but, if not, they will probably have to modify their quotations.

At the vestry meeting of St. Mary's Church, Edmonton, it was announced that £2,000 had been obtained for the erection of a new parish hall, and that the work would start as soon as possible.

The annual meeting of the Institution of Municipal and County Engineers will be held in London on June 19, 20, 21, and 22, under the presidency of Mr. T. W. A. Hayward, Borough Engineer, Battersea.

Representatives of the Press will be admitted to a private view of the 92nd Annual Exhibition of the Royal Scottish Academy to-day from 10 a.m. to 6 p.m. Refreshments will be provided from 1 to 2 p.m.

Mr. Walter Crouch, F.Z.S., late of Grafton House, Wunstead, who has died, aged 77, was a well-known Essex antiquarian and naturalist, and for many years a member of the Essex Archaeological Society, the Essex Field Club, and similar societies, to whose proceedings he was a frequent contributor.

PARLIAMENTARY NOTES.

WAR MEMORIALS TO M.P.'S.—On Thursday last replying at the end of a discussion of the above, Sir A. Mond said he had assisted unofficially in helping to get designs from eminent artists and in discussing the question, but as First Commissioner of Works he must reserve judgment both on the memorial and on the site till a scheme was definitely adopted. He pointed out that to erect a large memorial in the central lobby between the House of Lords and the House of Commons must interfere with the processions of the Speaker from one House to the other. The advice of experts had been sought already, and would be sought again if necessary, and the committee responsible for raising the funds for the memorial would have, no doubt, to decide between any divergent artistic views. As to the particular proposal for a separate memorial of the members and officials of the House of Commons who had fallen in the war, he questioned whether the taxpayers could be asked to defray the cost. It would not be quite dignified for the House to vote public funds for a memorial to be set up in some place where many of the public might never see it.

WESTMINSTER HALL ROOF.—In reply to objections to the continued cost of the repairs to Westminster Hall roof, Sir Alfred Mond last Thursday said he had gone carefully into the question with the view of stopping any expenditure that could possibly be saved. He felt as strongly as the hon. member that money should not be spent on objects, however worthy, not absolutely necessary. He had spent several hours on the scaffolding, and if the hon. member went some day he would realise that it had been purely an accident that the roof had not fallen down long ago, that its condition was extraordinarily unsafe, and that it was of the utmost importance to get the roof in a position in which they could really guarantee its structural safety. Four trusses had been completely reinforced and secured, and the reinforcement of three other trusses was in hand. Two traves between the trusses had been completely reinforced and secured, and the reason why more money was required this year than last was because it was of the utmost importance that the centre three trusses between the two traves should be made secure so that they could get a solid block in the middle of the building so that whatever happened they should know that the roof was secure. With regard to the form of contract, they were dealing with a building where no one could say in advance what would be required, and no contractor would do the thing on a lump sum contract. A schedule basis was the only practical thing. An hon. member had raised the question of statues in public places. The Office of Works had never been allowed to express much opinion as to the statues; their duty had been to find sites for statues that other people gave them. It was very difficult to look gift horses in the mouth and gift statues were even more difficult, but if they had to say that no statue should be put in an open space he did not see how they could have any statues put up in future.

LIST OF TENDERS OPEN.

COMPETITIONS.

June 7.—For designs of cottages and "living-in quarters," for the National Eisteddfod of Wales. Open to any British subject. Premiums of £50 each for best designs in each of three classes. Premium of £10 for best design for "living-in quarters." Full particulars and conditions will be found on p. 277 of our issue of April 3 last. Designs to be sent in on or before June 7 to the Secretary of the Eisteddfod, Philip Thomas, Glynifer, Neath.

FURNITURE.

April 26-29.—Tenders are invited by the Commissioners of H.M. Works for supplying lockers, kitchen tables and deal washstands. Forms of tender on application to the Controller of Supplies, H.M. Office of Works, King Charles Street, Westminster, London, S.W.1. Tenders to the Secretary, H.M. Office of Works, Storey's Gate, London, S.W.1.

PAINTING.

April 27.—Painting externally the woodwork of the institution, according to specification of P. J. Kilgallon, architect, to be seen at the Poor Law Office. For the Sligo Guardians. Sealed tenders to T. J. McGoldrick, Clerk, Poor Law Office, Sligo.

April 30.—Tenders for painting Menai Bridge, North Wales, are invited by the Commissioners of H.M. Works. Forms of tender, draft contract conditions, and schedule of quantities can be obtained from the Chief Engineer, H.M. Office of Works, or from the Bridge Keeper at Menai Bridge. Tenders to the Secretary, H.M. Office of Works, Storey's Gate, London, S.W.1.

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120, Bunhill Row, London, E.C.

TENDERS.

*Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender; it adds to the value of the information.

BOOTLE (CUMBERLAND).—Painting at the workhouse, for the guardians:—

Mandale, W., and Son	£37 5 6
Bradley, F. W.	37 0 0
Miles, W. B. (accepted)	29 0 0

BOOTLE (CUMBERLAND).—Alterations to tramp ward, for the guardians:—

Craighill	£97 10 0
Fairclough (accepted)	80 10 0

CANNOCK.—Erection of a cloak-room and lavatory for the clerk's office, for the guardians:—

Mason, T., and Son, Miednesford (accepted)	177 0 0
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DERBY.—Construction of extensions to the electric-power station, for the corporation:—

Morley, E., and Sons (accepted)	£4,554 10 11
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GLASGOW.—Relaying sewers north of Caledonian Railway, for the corporation:—

Gray's Ferro-Concrete Contracting Co., Ltd. (accepted)	£1,458 0 0
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LONDON, N.W.—Formation of an operating-room at the North-Western Hospital, for the Metropolitan Asylums Board:—

Costick, A., 136, Whitestile Road, Brentford	£920 0 0
Mattock Bros., Wood Green	600 0 0
Trudgett, W. J., Colchester	460 0 0
Edgar, H. J., 3, Craven Terrace, Lancaster Gate	449 0 0
Kazak, L., 12, Steeles Road, Hampstead	420 0 0
Whiter, J. E., 89, Newington Butts	398 0 0
Inns, A. H., 7, Devonshire Square, Bishopsgate, E.C.4*	387 0 0

* Recommended for acceptance.

SALFORD.—Repairs and renewals to coke conveyor at the Liverpool Street gasworks, for the town council:—

Jenkins, W. J., and Co., Ltd., Retford	£1,998 10 0
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(Recommended for acceptance.)

SWADLINCOTE.—Resetting retort bed at the gasworks, etc., for the urban district council. Accepted tenders:—

Mobberley and Parry, supply of retorts, £67 4s.; R. Taylor, resetting retort bed, £55 14s. 6d.
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WOOLWICH.—Supplying a new fall-bridge for Woolwich ferry, for the London County Council:—

Young, H., and Co., Ltd., Vauxhall Cross	£342 0 0
Westwood and Co., Ltd., Mill-wall*	273 18 0

* Accepted.

Funds are being raised for the renovation of the parish church, Blackburn.

It is proposed to carry out alterations at St. Peter's Church, Ewood Bridge, Rawtenstall.

Mr. A. H. Ryan Tenison has removed to the National Society's House, 12, Princes Street, Hanover Square, W.1, his temporary address, owing to military occupation of 21, Great Peter Street, S.W. The P.O. will settle his new telephone number later.

The spring exhibition at the Derby Corporation Art Gallery, opened last week, consists of about 400 original drawings for book illustration by various well-known modern artists. Two portraits in oils by Mr. Ernest Townsend, one of the late Sir Francis Ley and the other of Mr. Justice McCardie, are also hung.

As a memorial of the late Dean Pigou, a carved oak altar and credence table have been obtained, and the flooring of the sanctuary of the Elder Lady Chapel in Bristol Cathedral has been replaced with stone paving, uniform with much of the paving in other parts of the choir. The work was dedicated after evensong last Thursday. The total cost of the memorial has been £475 18s. 4d.

THE BUILDING NEWS

AND ENGINEERING JOURNAL.

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OUR ILLUSTRATIONS.

The Cloisters, Winchester College. An etching by Mr. A. Hugh Fisher, A.R.P.E. (From the Exhibition of the Royal Society of Painter-Etchers, Pall Mall, 1918.)	
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Strand, W.C.2

Designs for the Proposed War Memorial to Fallen Members of Parliament and Officers of the House of Commons, to be erected under the great window inside Westminster Hall.	
Housing of the Working Classes, England and Wales. S.W. area. First Prize, Class A, urban districts. Plans, elevations, and sections. Messrs. Thornely and Rooke, Architects, Plymouth.	
Housing of the Working Classes, England and Wales. Northern area. First Prize, Class C, Messrs. Knowles, Oliver, and Leeson, Architects, Newcastle-on-Tyne.	

Currente Calamo.

The forthcoming exhibition at the Royal Academy, considering the times, is really a very satisfactory one. The collection of pictures, etc., numbers about seventy less than last year, and about 330 fewer than 1916. The most masterly work shown on this occasion is out and away the largest—so big, in fact, that it is excluded by its size from the galleries and deservedly occupies the commanding place where Watt's glorious "Energy" stood some years ago in the entrance quadrangle. This is Mr Gilbert Bayes' equestrian statue, "The Homage of War" (if we judge rightly, that is the title). It can be seen by any passer-by from Piccadilly, and cannot fail to attract all admirers of the noble in sculpture by reason of its boldness, fine modelling, and breadth of treatment, combined with simplicity of line and dignity of design. The Architectural Gallery is, as might reasonably be expected, not overcrowded. The exhibits total 158, as compared with 155 in 1917.

The ninety-second annual exhibition of the Royal Scottish Academy, which opened on Saturday last, embodies several features of interest. The great room has been devoted to pictures by the seven painters who occupied the presidential chair between the foundation of the Academy in 1826 and the election of the present President in 1902—George Watson, Sir William Allan, Sir J. Watson Gordon, Sir George Harvey, Sir Daniel Macnee, Sir W. Fettes Douglas, and Sir George Reid. All are well represented, the series forming a summary of what has been done by Scottish painters of the past in portraiture, genre, and landscape, and affording facilities for comparison between the ideals of the last century and those prevailing to-day. In the sculpture section is a selection of works by M. Ivan Mestrovic, perhaps the most discussed of the younger European artists. This embraces some thirty works, symbolic statues, religious reliefs, portrait busts and figures, in marble and metal, in carved wood and cut plaster, lent through the Serbian Legation in London. There are also a few pieces by another Serbian sculptor, M. T. Rosandic.

Cities built in circles instead of squares, to overcome the evils of congestion due to

lack of proper sanitation and orientation, is the idea of Peter Roveda, of Milan, Italy, and New York City. His scheme has been called the "City of the Sun," not only because of its shape and the radial lines of its lot sub-division, but because it would, it is claimed, actually admit more sunlight and air than now falls to the share of the average crowded city block. The principal distinctive features of the scheme are described by the *American Architect* as the changing of the city block from the conventional rectangle to a square, within which are inscribed circular, concentric roadways—one or two, as the case may be—cut by diagonal streets from corner to corner of the block, meeting at a central plaza, civic centre, school, or other community building. There are three modes of lot sub-division for providing for varying degrees of density of population. The first consists of one circular street, divided into twenty-eight radial lots, appropriate for the single houses of the higher type of residential district; the second providing for division of the one street into forty radial lots, adaptable to abutting two-story double houses, accommodating eighty families; and the third providing for two concentric streets and eighty lots, built up with four-family houses, accommodating 320 families. Whatever the merits of the idea, it is, of course, only applicable to new cities.

"Up-to-date" architectural draughtsmen of late have elaborated their elevational façades by a needless multiplicity of vertical central lines, which not seldom are confusing and tend to alter the proportions of the architects' design. An amusing instance is recorded by Mr. Marc Henry in his new book, "Beyond the Rhine": "At the entrance to the Kurfürstendam, that most elegant of Berlin streets, the Kaiser caused to be built a vast Protestant church, in the Classical Style, called the Gedächtniskirche. His enthusiasm for architectural harmony drove him to insist that all houses and shops in the neighbourhood should be in the same style, so it was suggested that a certain little public convenience in the middle of the square should also be Classical. The clock tower of the church bears a golden cross, from which rises a long stalk with a star at the end of it, the whole being heavily gilded. It cost fifty

thousand marks to get the star hoisted to such a height. When the architect submitted his plans the church tower appeared exactly in the centre of the sheet of paper. A pencil line which divided it down the middle terminated at each end with a small draughtsman's mark in the form of a star. It so happened that this line rose above the cross which the designer had placed at the top of the tower, and the Emperor, after looking at the drawing, cried enthusiastically, 'Splendid! I think it is a beautiful idea to put above our human cross the Star of Bethlehem, shining over the House of God.' No one dared to explain to the All-Highest that this unfortunate little pencil star had no other purpose than to mark a central line for the guidance of the architect." So the star had to be added, stalk and all!

Another instance of the Kaiser's artistic omniscience and omnipotence in art matters is given by M. Charles Rivet, the Petrograd correspondent of the *Temps*, in his new book, "The Last of the Romanoffs," an English translation of which by Mr. Hardress O'Grady has just been published by Constable and Co. Even in studios the will of the War Lord is paramount:—

Everything is done on the Emperor's instruction, who insists on his ideas being carried out down to the smallest detail. One of the best-known Berlin sculptors told me that William used to come at exactly the same hour every day to his studio to view the clay model of an enormous statue which the Emperor had ordered. One day the angle of the statue's arm displeased the Emperor. The artist showing a tendency to argue, William drew his sword and, with a quick blow, struck off the offending limb. Then, returning his sword to its scabbard, he turned on his heel and remarked pleasantly, "You will alter that now, won't you?"

Strongly in contrast with that of "Wilful Willy" is the pitiful picture M. Rivet draws of "Nicky," the miserable tool at once of the German Emperor on the one hand and his pro-German wife on the other. The story of the Tsar's abdication, and the exile of the disrowned pair is one of the most tragic of the time.

"The Submarine Without a Periscope" is the title of a new booklet issued by Messrs. Lewis Berger and Sons, Ltd., of Homerton, in which it is very truly pointed out that rust, which works out of sight, has destroyed more material than submarines ever will, and that its presence

is unsuspected till the tie-rod snaps, or a girder breaks, because their surfaces have not been protected from air and moisture. So far, no ideal metal protective has been found. Graphite is preferred by engineers and experts, but natural graphite—either the flake or amorphous—has serious drawbacks. Paint made from flake graphite gives a rough poorly-covered surface, with the splinter points uppermost, so that it catches and holds the moisture which causes corrosion. The amorphous form is found combined with so large a percentage of silica, clay, and other earthy matter, that it has little value as a paint pigment. The latest discovery is an artificially produced form of natural graphite in an electrical furnace, the great heat of which destroys all impurities, leaving a graphite that is 93 per cent. pure, which forms the main pigment in Berger's "Metalac" metal-protective paint. "Metalac" is a scientific metal protective paint composed of this electrically produced graphite of 93 per cent. purity with a small proportion of carbon and other inert materials, ground in specially prepared genuine linseed oil. The result is an elastic and durable, unchanging and chemically inert coating, which perfectly protects iron and steel from the inroads of water and air—the real causes of rust. The booklet gives some interesting particulars of its method of application and samples of the paint itself as produced for each purpose desired—not one paint for all purposes.

ARCHITECTURAL TOWN DEVELOPMENT.

So far except as regards isolated features and in a few cases, it cannot be said that any "town planning," or, as we should prefer to call it, "town development," scheme has been fortunate enough to enlist the suggestive services of architects; and the result, speaking generally, is that not a single scheme with which we are familiar has exhibited that unity of purpose or skilful adaptation of existing conditions to possible betterment which alone could satisfy the claims of real utility or due regard for architectural fitness. Among the great towns, Birmingham has probably been the worst offender so far in the way of neglect in this respect, and we have more than once dwelt on the consequences. Some of these it may not yet be too late to remedy, and the great Midland metropolis is, at any rate, fortunate in having aroused the desire and ability to help of one of its most competent citizens, Mr. William Haywood, F.R.I.B.A., whose book on "The Development of Birmingham" we have read with much pleasure, and which we cordially recommend to the perusal of his brethren of our own calling, trusting that it may inspire some of them to emulate his efforts on behalf of his own city in the endeavour to tender similar good advice in their own localities.

In no city of its size is there more urgent need for civic improvement than in Birmingham, which is little more than a huge aggregation of people and buildings with little evidence of proper control, and less of the convenience so important a town should possess, or of the beauty it should cherish. It may have been "natural," as Mr. Neville Chamberlain says in the pithy and pertinent introduction he has contributed to the volume, that Birmingham in

its town planning scheme should have limited its efforts to the undeveloped areas of the city; but it is certain that such a policy was responsible for the defects of the scheme we have already pointed out, and it must be evident to all its thoughtful inhabitants that much might be done to improve matters generally without any further extension of statutory powers.

To each and all of Mr. Haywood's suggestions with this end in view Mr. Neville Chamberlain gives his approval. Some of Mr. Haywood's suggestions may, as Mr. Chamberlain says, seem "startling," but that "they go beyond the ordinary scope of his profession" is certainly not the fact. It is true that the "ordinary scope" of the architect is to design and create buildings on wrong sites in the selection of which he has had no voice, under conditions and at cost over which he has no control, and at the bidding of clients impervious to better advice, and incapable of regret at inevitably bad results; but it is the province of the real architect, when opportunity offers, to indicate at the outset—especially when public schemes are contemplated—the best means and most likely conditions under which success can be secured and real needs supplied. Such advice, supported, as in the present case, by actual plans, if it does not "find universal acceptance," at any rate offers a tangible basis for discussion at the proper time, and with the best chance of escaping the hindrances of stupidity or the perils of party rancour.

Mr. Haywood's three principal proposals will, we imagine, encounter few objections from competent people in Birmingham based on the assumption that they are unnecessary. It has long been evident that the present Council House, sufficient as it may have been in 1878 for a population of 440,000, is not so, even with its late extension, for the continuous and steady approach since to one of 900,000. Whether the new site Mr. Haywood suggests is the best available, or whether his "sky-scraper" design is most fitting are matters of legitimate discussion. That his calculations that a considerable necessary rearrangement of the traffic routes could be effected with important additions to rateable values have been carefully made we have little doubt.

Mr. Haywood's suggestion for the improvement of New Street Station will probably commend itself to all who use it. It would not involve any very excessive cost, and may very possibly be the first of its author's ideas to materialise.

The third proposal—for the building of a Civic Recreation Hall combining a complete bathing establishment on the lower ground floor, with a Kinema Theatre; on the ground floor a Rotunda, a large hall or winter garden for music and general assembly; with the upper floors devoted to kindred and rational recreations—could have been built at pre-war prices, Mr. Haywood reckons, for about £225,000, and with the profits from the various purposes indicated would be at once remunerative.

Subsidiary proposals included by Mr. Haywood embrace a scheme for Pleasure Grounds and Zoological Gardens, various local improvements in the town, a central place or "Town Centre" in the vicinity of the Town Hall, around which, laid out as a formal garden, should be grouped various suggested buildings, already in existence or to be erected as opportunity may serve. Certainly, taken as a whole, the facilitation of Mr. Haywood's ideas should commend itself to a municipality many of whose members have in the past so liberally endowed the city with their wealth for noble purposes. If they take to heart, as many more of us might do, his reminder on page 99, they will not count

cost in niggardly fashion. "Work that is done without forethought, and a little at a time, grows unconsciously under our hand to enormous proportions, but is apt to be misdirected and extremely wasteful; whereas by planning in advance it is possible to obtain far greater value for the same or less expenditure; and if in this case we proceed to first count the cost, there is no need for alarm because the sum is great. Looked at from the proper angle it is really normal."

The presentation edition of Mr. Haywood's book, the price per copy of which is 15s., has been limited to 250 copies, but a cheaper edition is nearly ready which will be sold at 6s. 6d.

THE WAR MEMORIAL TO FALLEN MEMBERS OF PARLIAMENT.

[WITH ILLUSTRATIONS.]

The three designs recently submitted in a limited competition for the proposed war memorial to fallen members of Parliament and officials of the House of Commons who have lost their lives in the war have been on view in the Tea Room for the inspection of the subscribers. The proposed site is in the interior at the end of Westminster Hall, under the great window facing Whitehall. No choice of either scheme has yet been made, and meanwhile the Committee, who invited the artists concerned, have called in three other members of Parliament to assist in determining the award. The names of the competitors cannot be given till this important decision is arrived at.

We think, in view of the very different character of the proposals submitted and the object in view, it certainly is most necessary that the advice of a competent architect should be obtained before a decision is arrived at. Either design will be more or less an architectural addition to the Hall, and therefore the opinion of a painter or sculptor, however distinguished, is not likely to afford an adequate basis of selection.

The competitors have submitted designs of an entirely different kind, and apparently no indication of what was desired seems to have been supplied to them. Although their ideas are so unlike in all other respects, it must be said that none exhibit the distinction which a national work of this kind should possess. Should one of the three be selected the preference ought to be accorded to that known as "C." This design is depicted in pencil perspective showing a semi-octagonal projecting alcove of three arched bays standing out from the wall under the window and carried up structurally to the cill level with wing-mural treatments, below this line, right and left, so as very properly to make the fabric co-ordinate with the building. The style is florid Gothic with a high sort of Jacobean projecting balcony set above it and having sculptured terminals put over the newels following the vertical line of the piers below, the interspaces being filled with big turned stone balusters. Rising in the midst of this oriel balconette (to which seemingly there is no means of access) there is an exceedingly tall and thin obelisk-like stone column or shaft having a decorative finial of St. George on the top. This somewhat curious feature for such a position is boldly set in front of the great window. The general effect suggests rather too much the notion of an internal porch somewhat on the lines of Pierre Robin's flamboyant portal of St. Maclou at Rouen, or perhaps rather the idea of some similar German exemplar with reminiscences of the Ciborium of Ratisbon Cathedral, save that, in lieu of

the right-angle, the splay of 45° has been adopted in this lay-out. The scheme has the distinct advantage of giving ample space within its canopied enclosure for the display of the names of the heroes whose memory is to be recorded, and this is a most essential provision. There is, however, one serious objection—namely, that below a groined tester such as this, situated beneath a vast window, it will be well-nigh impossible to read the names inscribed on the wall, too deeply in shadow. Electric lighting arranged from the vaulting would be necessary even on a bright day.

The design marked "A" is represented by a photograph taken from a model and illustrating a Gothic structure which has the appearance of a frontispiece, perhaps to a rostrum, or possibly a reading desk—anyhow, to something hardly suitable—one would have imagined feasible in such a building.

The other proposal on the screen, "B," resembles more a graveyard pedestal: bold, solid, and square-like, faced by an arched and moulded panel for a general inscription. The work in idea is monolithic, handled in a somewhat severe nondescript Classic manner, without regulation cornices, the angles being modified towards the top by setbacks or chamfers, giving the effect of slightly tapering sides. The whole scheme might meet the needs of an exposed exterior situation, and possibly may be intended to carry some sort of finish—perhaps a piece of sculpture. Anyhow, its appropriateness for a central position in Westminster Hall is not very obvious.

The want of uniformity of scale in presenting the three designs will render any decision difficult, to say nothing of the varied methods adopted for their illustration. "A" being shown by a photograph from a model, "B" by a water-colour sketch, and "C" by a pencil study. Comparison or criticism under these circumstances is not easy even for an expert.

We are indebted to the *Daily Graphic* for the loan of the photographs from which our illustrations are made. Their own appeared in the issue of April 24.

HOUSING: PLANNING AND MATERIALS, PERMANENT AND SEMI-PERMANENT.*

By FRANK BAINES, C.B.E., M.V.O.,
Principal Architect H.M. Office of Works.

I propose to deal with the question under the following broad headings:—(1) Development of Sites; (2) Planning and Design of Houses; (3) Notes on Material and Construction; (4) The existing outlook for future Housing schemes.

DEVELOPMENT OF SITES.

I have always taken the view that the question of the site must dominate the whole scheme and lay-out of any housing plan. Skill in planning may undoubtedly overcome the serious defects of a bad site, but can never radically redeem one. In the choice of sites, therefore, the expert in housing should, I think, be called in before definite decisions are arrived at as to the area to be taken over for the purpose.

Hilly sites have, to some extent, a bias against them, owing to the difficulty of utilising them effectively and economically for housing schemes. They are, however, usually less costly to purchase than level sites, and yet, as a general rule, undoubtedly prove more costly in the carrying out of the scheme. They are, however, most picturesque, and advantageous from the point of view of the health and sanitation of the settlement.

ROADS.

Main traffic roads through any scheme must, of necessity, be wide; but many schemes do not, at the moment, involve lines of main traffic. In such cases the roads can be made

of medium width, similar to subsidiary roads, with grass edges dividing the footpath from the roadway, thus allowing for future widening where necessary. For subsidiary roads I usually allow a minimum of 45 ft. to 50 ft. between houses, of which 16 ft. only is the carriage-way. In addition to this the planning is always arranged to allow of further open spaces between the houses, which increases the width up to 100 ft. or 110 ft. in certain instances. The minimum width, however, will allow of future widening should the extensions of the schemes demand an increased carriage-way. In certain schemes provision has been specially made for transforming the road in the future to a main arterial way by setting the houses well back, and planning the road in the first instance as a subsidiary one with adequate width for the final purpose when required.

I have found the outlay on subsidiary roads, as demanded by local by-laws particularly, out of all proportion to the requirements of the traffic on such roads. It has been my effort, therefore, severely to curtail excessive expenditure here.

The necessity for economising in timber has, in certain cases, led me to follow the American system of an open lay-out, entirely eliminating front fences for the open spaces between the roads and the houses. These spaces are laid out in turf, and should come under the direction of the estate management. Where a tenant requires any portion of these spaces for the purpose of flower or vegetable gardens, the matter would have to be decided by the management as to whether permission could be granted, the back gardens alone being intended for such purposes.

PLANNING AND DESIGN OF HOUSES

Undoubtedly the most important types of cottage are those containing—(1) Living-room, parlour, scullery, and three bedrooms, with bath and the usual offices; (2) living-room, scullery, three bedrooms, bath and the usual offices. These are the two types which I have used far more than any others, and of the two the proportion of houses provided without a parlour is as four to one. The parlour. On the other hand, people urge the one hand, people prefer to have a large, pleasant living-room, rather than a small pokey living-room and a small parlour. On the other hand, people urge that the parlour is absolutely necessary for the purpose of the children studying and doing their lessons in quiet, for accommodating the piano and the household gods, and for placing the coffin, in the event of a death in the family. Further, when visitors call, and the head of the household has just returned from work, the only place where the visitors can be introduced is the living-room, and the necessity of a parlour is urged as being the only way of giving the householder some sort of privacy before he has changed his clothes after return from work.

Another type of house, which I have been repeatedly pressed to provide, has been one containing living-room, scullery, with bath and the usual offices, and two bedrooms, the bath in this case being in the scullery. Only a very small proportion of such accommodation has been provided, but where it has been provided the accommodation has been found to be strikingly popular. The difficulty has, in certain cases, been met by providing such accommodation plus a small parlour on the ground floor, which it is intended should be used as a third bedroom when the necessities of the family so require. It has, however, been found that, rather than give up such a parlour, overcrowding has been indulged in.

Flats, with separate entrances to each, four in a block, of two stories only, have been found to be very popular, the accommodation consisting of good living-room, scullery with bath, two bedrooms, and the usual offices. This accommodation is particularly popular with young married couples, and people with one or two children. The practice, however, of erecting such accommodation in the form of flats has not been found to be necessarily much cheaper than other types of accommodation.

As regards the areas of the various rooms. I think that the requirements of the Local Government Board can be safely followed. As to height, my general rule has been to

allow for a minimum of 8 ft., though, in certain cases, this has been reduced to 7 ft. 9 in. Economy can be effected in the construction of the roof by utilising sloping ceilings in the bedroom, maintaining a minimum of two-thirds of the floor area for the flat portion of the ceiling, with a minimum height of 5 ft. for the springing of the sloping ceiling. In the general planning back additions are avoided wherever possible. They lead to the exclusion of light, and are uneconomical as regards flushings, gutters, drains, etc., and generally debase the back elevations of the schemes. The best effects can, I think, be obtained throughout by no eccentricities of treatment, but by the utmost simplification in design, relying upon the proportions of the windows, doors, and the façades of the houses, and, further, by the assembling of different classes of houses, of varying design, in one block, and by alternating shallow planning and deep planning for the various types used.

Corner sites undoubtedly require some individual treatment, and in isolated positions a wing plan is well worth introduction. By careful scheming such plans can be arranged so as to avoid irregular rooms and complicated roofing. Where pitched roofs are used they should be continuous throughout the blocks, and the hips, valley gutters, etc., entirely eliminated, if possible. For economy, fireplaces should be grouped, and to conserve heat should be against party and internal walls. Chimneys cannot well be less than 3 ft. above the roof, and in the case of flat roofs must of necessity be higher. In isolated rural districts, where some detached cottages are desirable, the washing and tool sheds, which are almost necessary in the case of rural housing, should be placed back to back, so as to ensure a certain amount of privacy.

As regards aspect, it is difficult to arrange for a south or south-easterly aspect to be enjoyed wherever required. The living-room and the principal bedroom, however, should always be planned to have this advantage, and the principle of trying to obtain the entrance of sunlight into every room should not be lost sight of. As regards the living-room, an effort is made, wherever possible, to introduce a side light into this, and where no parlour is provided I have arranged, at the definite request of certain tenants, for the whole of the cooking to be done by the gas oven in the scullery, and an ordinary parlour grate introduced into the living-room. This has only been done in a few instances, but it undoubtedly meets a specific want. In the North of England, however, where the baking of bread is a family custom, a bread oven is required, and the range would have to be of such type as to permit the size of the fire being regulated. The dresser should be carried to the ceiling in order to avoid accumulation of dust at the top, and where the house is without a parlour it has been found desirable to provide closed doors to the dresser, with the result that the room assumes a more homely, sitting-room aspect. One bookshelf in the living-room is, I think, a necessary fitting, and a large cupboard, under the staircase, adjacent to the room, is always provided wherever possible. Where a parlour is provided, it should be a secondary consideration to the living-room, both as to size and shape. The position of the fireplace in relation to the door should be planned so as to ensure comfort.

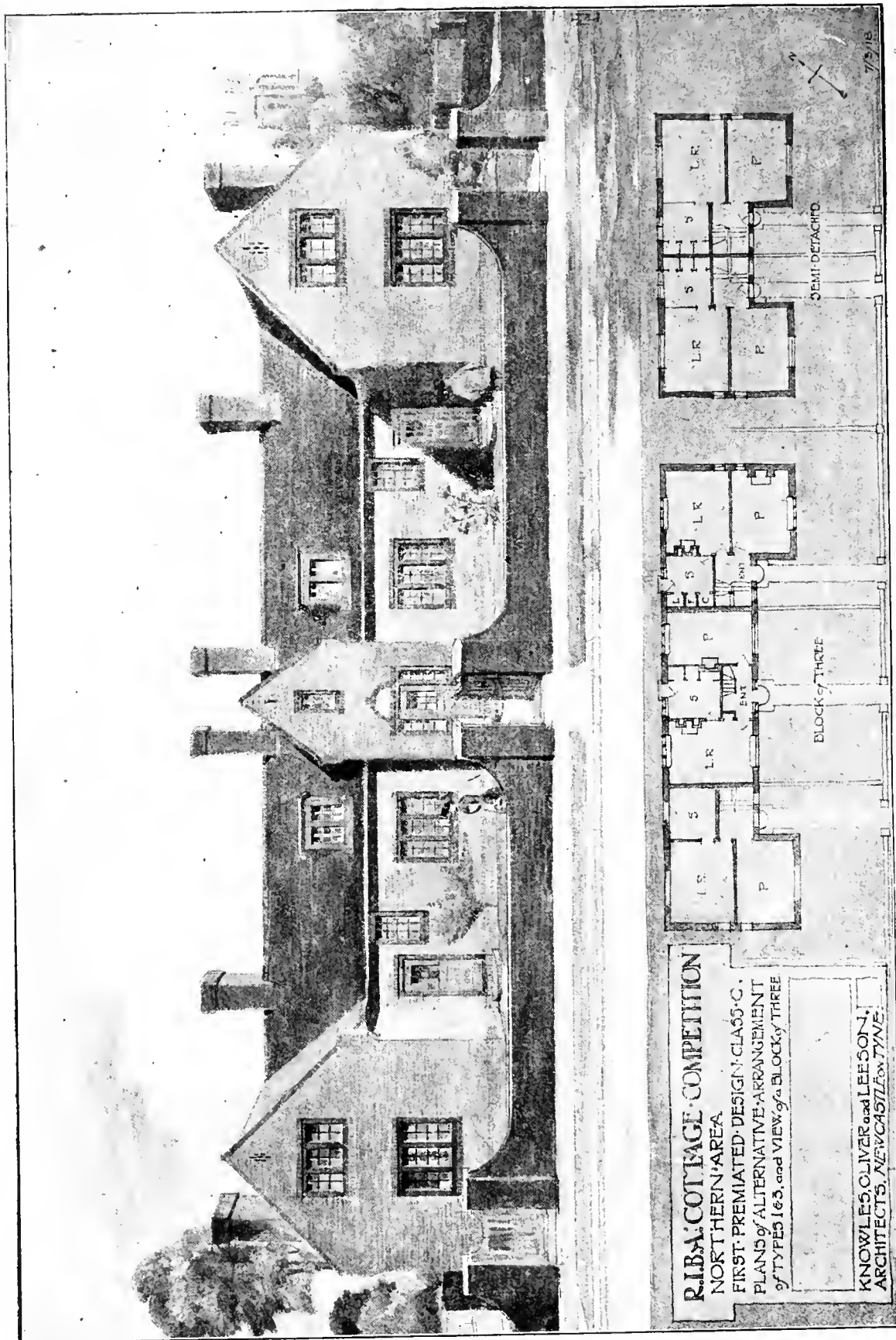
SCULLERY.

An attempt is always made to keep the scullery of such size and shape as to preclude its use as a living room. It is not intended that the size should be small, but the scullery should not be square in form, as this gives space for the introduction of a small table, which inevitably results in the use of the scullery as a living room.

The sink should be in a well-lighted and ventilated position, and the window-sill raised above the splash area, and, where large families have had to be provided for, I have received a request that the position of the sink should be placed so as to give an uninterrupted view of the living room fire, in order that the necessary supervision may be exercised over children.

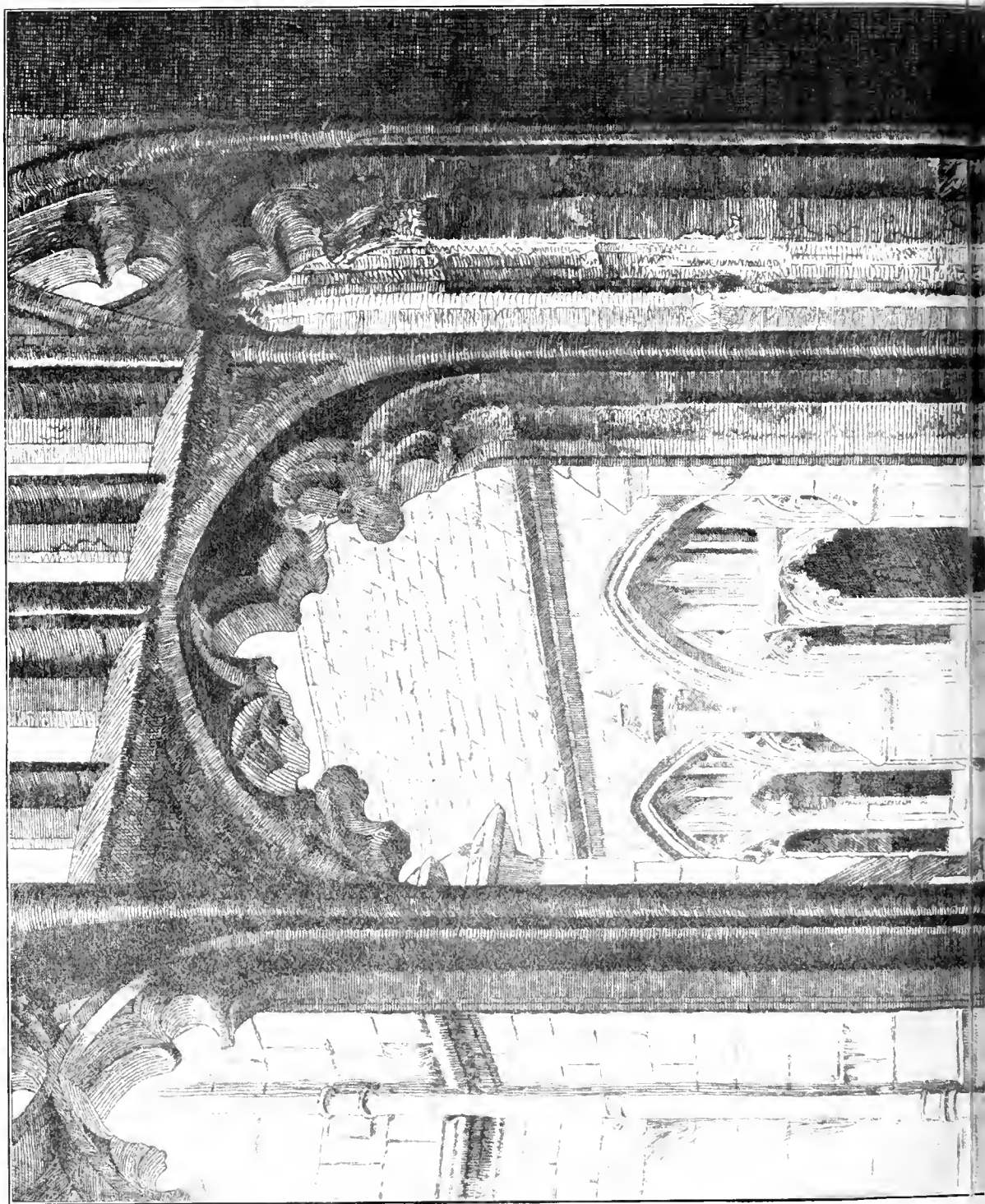
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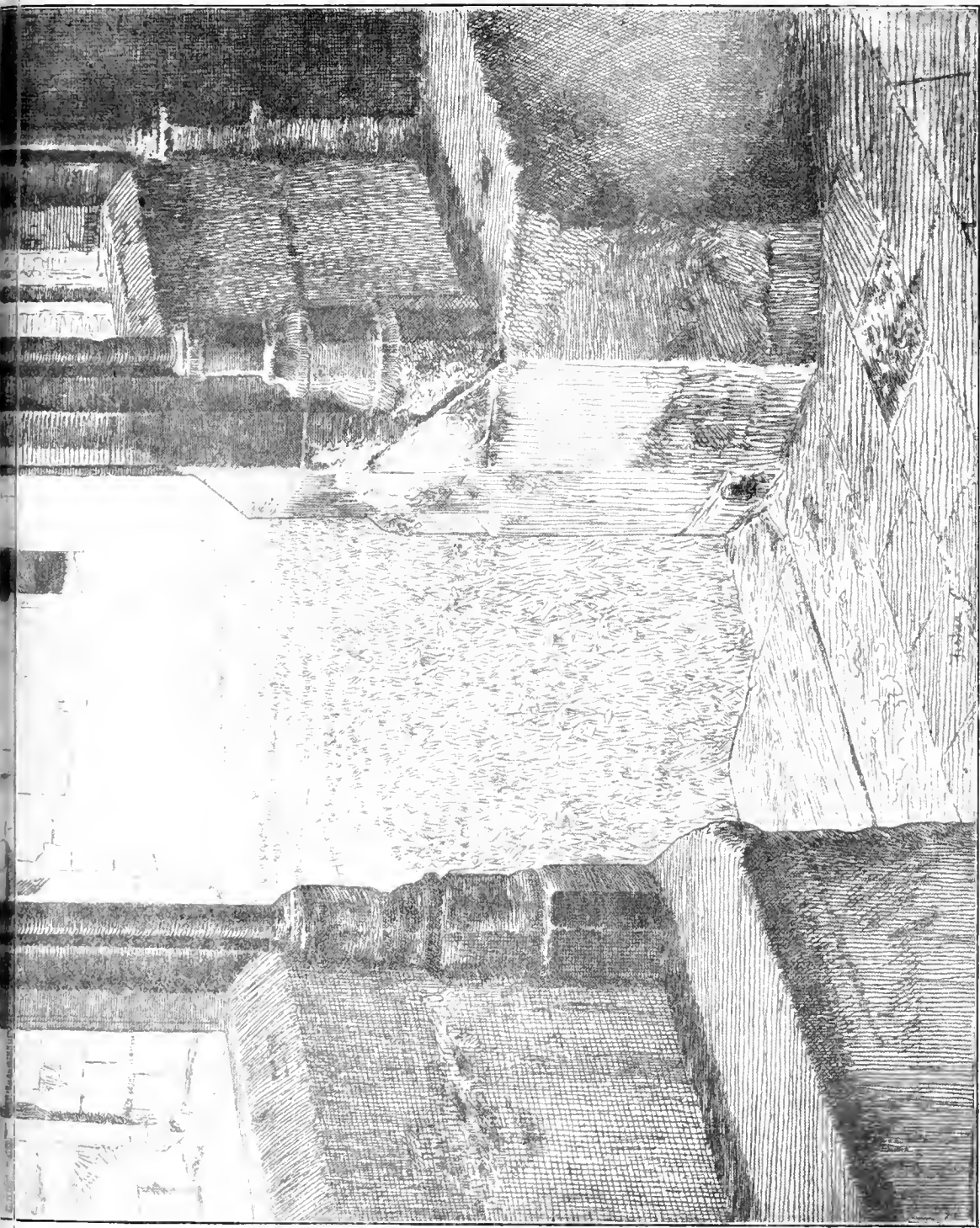
* From a paper read at a meeting of the Royal Sanitary Institute on April 24.



R.I.B.A. COTTAGE COMPETITION
 NORTHERN AREA
 FIRST PREMIAED DESIGN CLASS C.
 PLANS OF ALTERNATIVE ARRANGEMENT
 OF TYPES 1 & 3, and VIEW OF BLOCK OF THREE
 KNOWLES, OLIVER and LEESON,
 ARCHITECTS, NEWCASTLE-ON-TYNE.

HOUSING OF THE WORKING CLASSES, ENGLAND AND WALES, NORTHERN AREA.
 FIRST PRIZE, CLASS C, URBAN DISTRICTS.
 MESSRS. KNOWLES, OLIVER and LEESON, Architects.



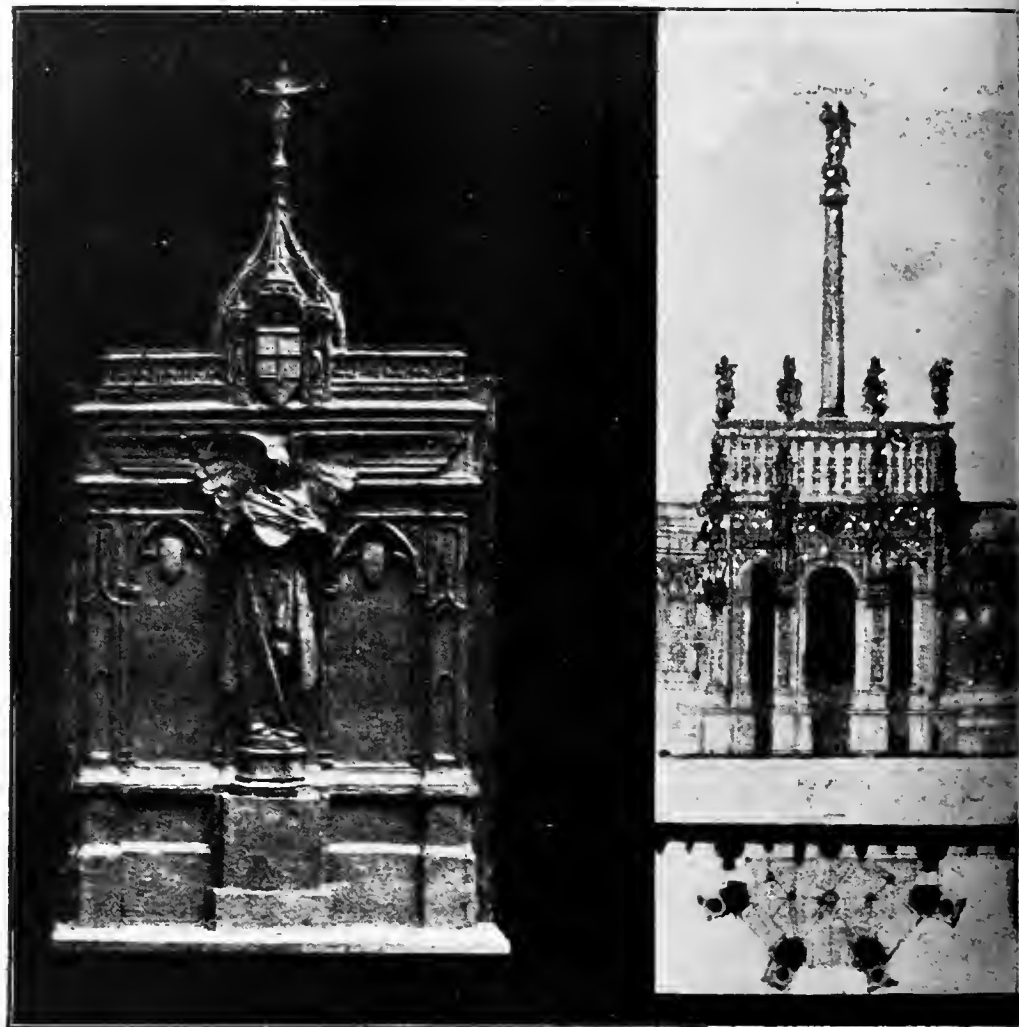


THE "CLOISTERS," WINCHESTER COLLEGE. WILLIAM OF WYKEHAM'S WORK.

By Mr. A. HUGH FISHER, A.R.P.E.

(From the Exhibition of the Royal Society of Painter-Etchers, 1918.)



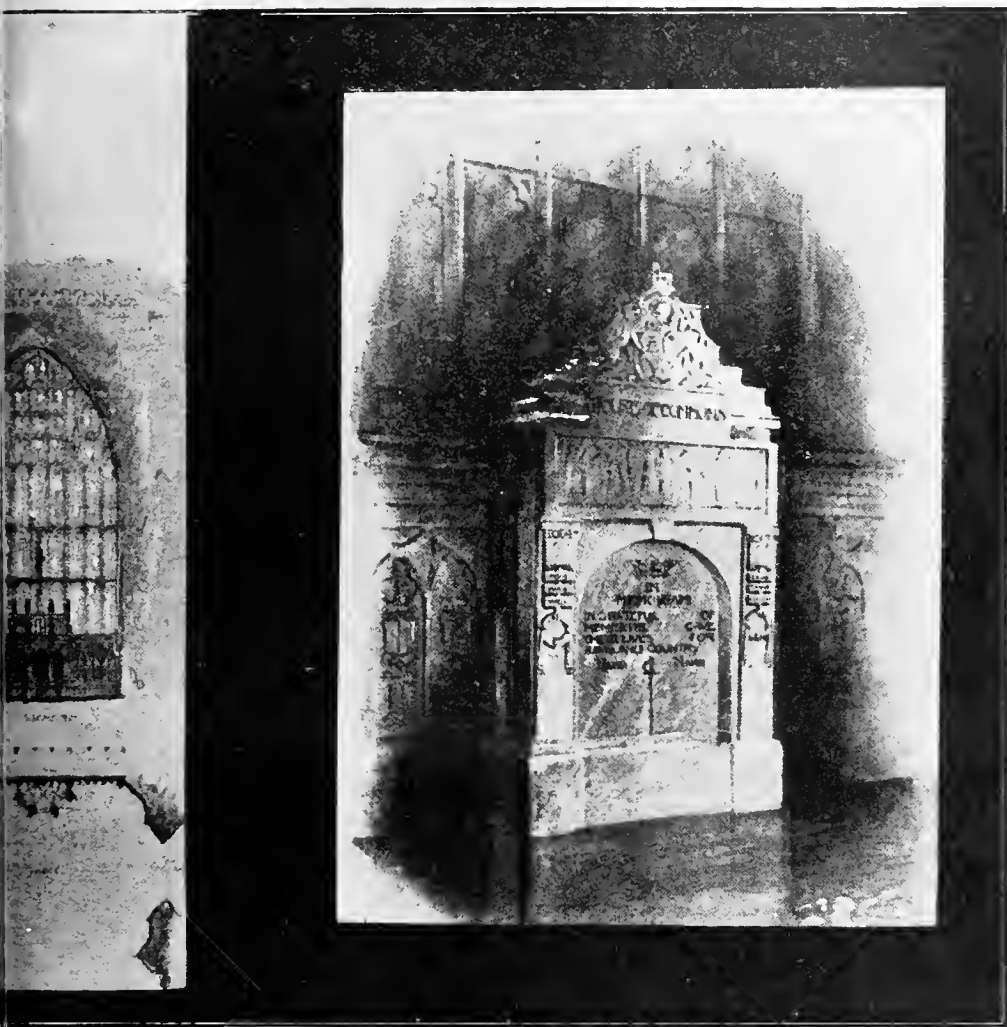


A

C

THE WAR MEMORIAL TO FALLEN MEMBERS
HOUSE OF

The Three Designs submitted, as described



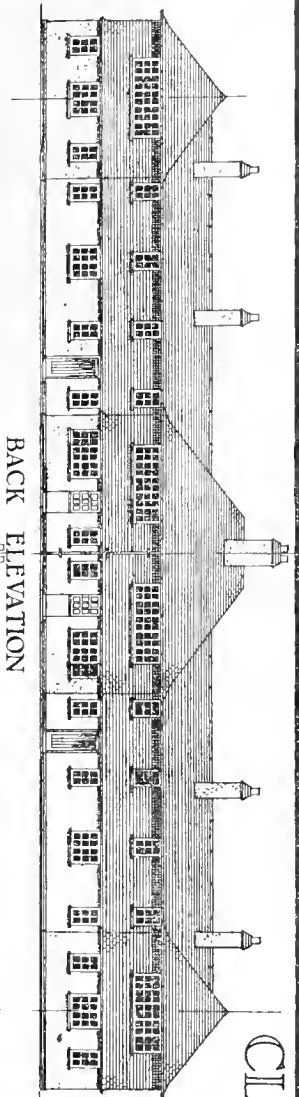
B

OF PARLIAMENT AND OFFICERS OF THE
COMMONS.

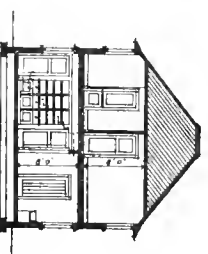
in our Second Article this week.

THE BUILDING NEWS, MAY 1, 1918.

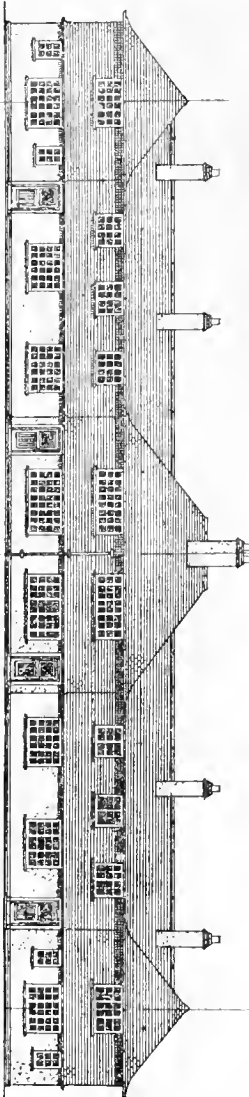
CLASS A.



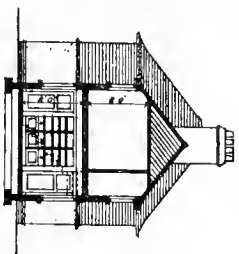
BACK ELEVATION



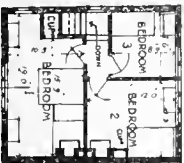
SECTION A.A.



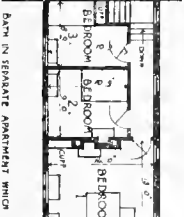
FRONT



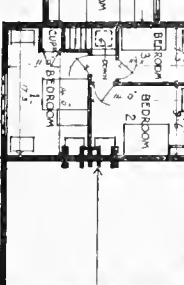
SECTION B.B.



BATH IN SEPARATE APARTMENT WHICH CAN ALSO BE USED AS A WASH HOUSE. BATH CAN BE SUPPLIED WITH HOT WATER FROM COWPS WHEN THE RANGE IS NOT IN USE.



FIRST FLOOR PLAN



FIRST FLOOR PLAN



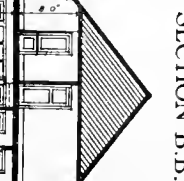
FIRST FLOOR PLAN



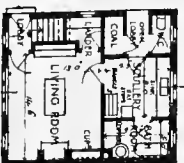
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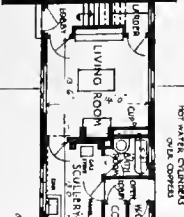
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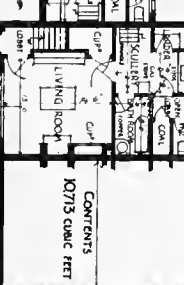
FIRST FLOOR PLAN



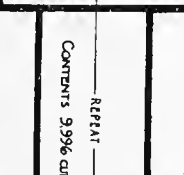
S.B. Thornely & P.L. R.A. and A.V. Rookes (1918) Ltd.



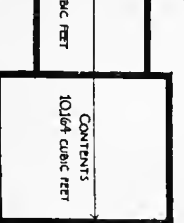
S.B. Thornely & P.L. R.A. and A.V. Rookes (1918) Ltd.



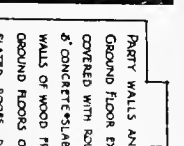
S.B. Thornely & P.L. R.A. and A.V. Rookes (1918) Ltd.



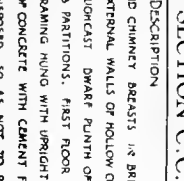
S.B. Thornely & P.L. R.A. and A.V. Rookes (1918) Ltd.



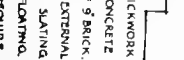
S.B. Thornely & P.L. R.A. and A.V. Rookes (1918) Ltd.



S.B. Thornely & P.L. R.A. and A.V. Rookes (1918) Ltd.



S.B. Thornely & P.L. R.A. and A.V. Rookes (1918) Ltd.

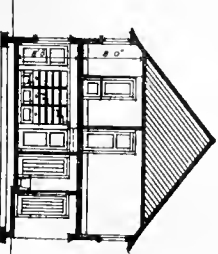


S.B. Thornely & P.L. R.A. and A.V. Rookes (1918) Ltd.

GROUND FLOOR PLAN

FIRST PREMIUM £100

SECTION C.C.



DESCRIPTION
PARTY WALLS AND CHIMNEY BASES 1/2 BRICKWORK
GROUND FLOOR EXTERNAL WALLS OF HOLLOW CONCRETE
COVERED WITH REINFORCED CONCRETE PLASTER OF 5 BRICK.
5 CONCRETE SLAB PARTITIONS. FIRST FLOOR EXTERNAL
WALLS OF WOOD FRAMING FINED WITH UPRIGHT SLATING.
GROUND FLOORS OF CONCRETE WITH CEMENT FLOTTING.
SLATED ROOFS DISPOSED SO AS NOT TO REQUIRE
DOWNER WINDOWS THUS REDUCING CUTTING AND
THE USE OF LEAD OUTTERS ETC TO A MINIMUM.

HOUSING OF THE WORKING CLASSES, ENGLAND AND WALES, S.W. AREA.

FIRST PRIZE, CLASS A, URBAN DISTRICTS.

Messrs. Thornely and Rookes, Architects.

Our Illustrations.

THE "CLOISTERS," WINCHESTER COLLEGE.

These cloisters (or "cloister") were part of William of Wykeham's original building, dating from the end of the fourteenth century. The chantry enclosed by them, of which a corner appears in the etching, was built by John Fromond later, but before his death in 1426. Cloisters were long used in summer for teaching, a fact commemorated in the name "Cloister Time," which is still regularly used for the summer term, though the practice ceased some two centuries or more ago. They are filled with memorials to departed Wykehamites. Our illustration is a reproduction of Mr. A. Hugh Fisher's admirable etching, which attracted no little attention this spring at the Exhibition of the Royal Society of Painter-Etchers. The texture of the subject and the artist's accuracy of detail are strikingly treated, with a clever and dextrous relation to the masonry seen in silhouette against the high light of the garth beyond. The etching is about the same size as our inset plate.

DESIGNS FOR THE PROPOSED WAR MONUMENT TO FALLEN MEMBERS OF PARLIAMENT AND OFFICERS OF THE HOUSEHOLD.

Our review of these three designs will be found on page 328. We are indebted to the *Daily Graphic* for the loan of the photographs from which our illustrations are made.

HOUSING OF THE WORKING-CLASSES, ENGLAND AND WALES—FIRST PRIZE DESIGNS, CLASS A (SOUTH-WESTERN AREA).

Messrs. Thonely and Rooke, of Plymouth, won the first prize in both the leading classes (A and B) in the West of England area, which included the Devon district. Our review of this particular competition will be found in our issue for February 20 last. The materials proposed to be used are tabulated on the drawings, and there remains little further to be said. The authors kept carefully to the conditions in preparing the plans, and the following are the points on which they relied:—The avoidance of back additions; separate bath rooms placed on the ground floor, available as washhouses; larders arranged off living rooms in preference to being attached to sculleries; coals and w.c.'s (where situated on the ground floor) kept within the main structure, but isolated and approached under cover; cross ventilation to living rooms wherever possible; and the employment of a simple type of elevation suitable for the locality, that could be either for urban or rural districts. The architects read the condition in regard to the wide frontage cottage "one room deep" to mean that this applied to bedrooms as well as sitting rooms. This point is mentioned because the majority of the competitors appear to have been in doubt as to the correct interpretation of this instruction. We shall illustrate their prize design for B class of cottages at an early date.

HOUSING FOR THE WORKING-CLASSES, ENGLAND AND WALES—NORTHERN AREA.

The authors of this design received the first prize in Class C and the second prize in Class B. The accompanying view, with two plans, which are alternative, show the £190 first prize design in Class C for urban districts in the northern counties of England, types 1 and 3. The perspective shows a combination of two of the types submitted in Class C, one wide front and two end houses, a block of three cottages as contrived in the larger plan. The alternative comprises a semi-detached pair, omitting the intermediate tenement in that case. The architects are Messrs. Knowles, Oliver, and Leeson, of Newcastle-on-Tyne. Our review of this competition appeared in our issue of February 27 last. The bath rooms and w.c.'s are situated on the first floor. The drawing is in the Royal Academy.

HOUSING: PLANNING AND MATERIALS, PERMANENT AND SEMI-PERMANENT.

(Continued from page 329.)

A gas cooker should, where possible, be provided in the scullery. Failing this, a range should be introduced here, so that the cooking can be done in the scullery.

Where no bathroom is provided in a separate enclosure upstairs, the bath is usually placed in the scullery, in a position where it can be readily screened off, close to the copper, with a large wooden top, which is utilised for various purposes by the housewife. I have found that no very strong objection has been raised to the bath being in the scullery, particularly if arrangements are made for laying on hot water to the bath, either from the copper, or from a special system, on the following lines:—A small circulating tank is provided, worked by a gas heater, fitted with a thermostat or not as desired, with connections to bath and sink.

A pot-rack, in an accessible position, should always be provided, space being arranged under same for the hanging of brooms and brushes. The scullery requires careful planning as to wall space so as to allow of a copper, sink, draining board, bath, gas cooker or small range, pot shelf, wringer, drying rack, and the necessary doors.

Spread lath drying rails over the gas cooker should be provided so as to allow of the drying of clothes away from the living room.

In urban districts the copper should always be placed in the scullery; but in rural districts it is usually desired to be in an outside washhouse, used also as a tool shed, potato store, etc.

In my experience a washhouse specially constructed to be common to four or five houses has never proved satisfactory, but I am very desirous of trying the effect of a communal laundry in future housing schemes where the occupants are of one class and character.

LARDER.

This may be designed to open out of the scullery or the adjacent lobby or living room, where it would be away from the steam of the copper and the sink. The aspect should be sunless, but with direct ventilation into the open air. The larder should be removed from the water-closet. A food cupboard on these lines is found to be sufficient for urban districts. In rural districts, however, it should be of a larger size, and sufficient to accommodate a salting trough. For certain of the Northern districts, where much baking is done, the larder must be planned to give more space than would be found necessary in the South. The shelves should be kept slightly away from the walls to obviate the harbouring of dirt.

COALS.

Space should be allowed for a minimum of 1 ton. The door should be near the back entrance. Particularly is this important in places where coal is not delivered in sacks. It should never be necessary to carry the coal through the living room.

ENTRANCES.

A small entrance lobby is desirable, as this prevents the ground-floor rooms being ventilated through the bedrooms, and the penetration of the smells of cooking and of washing. Further, this lobby is useful in which to hang up hats and coats. Accommodation should be provided near the front entrance for a perambulator, which accommodation may in certain instances be arranged under the staircase.

BEDROOMS.

It has been my practice, in three-bedroomed houses, to provide fireplaces in two of the rooms. I am, however, inclined to think that it would be adequate if one fireplace only were provided. The others are seldom used, and economy is effected by their omission. The main bedroom should be planned for a double bed to stand free of the wall, so that, in cases of confinement, the doctor may be able to get to both sides of the bed. Cupboards should be provided in all bedrooms. They should be carried to the ceiling, and the doors arranged so that there are no inaccessible corners. Where the bathroom is on the first floor, in the better type of houses, hot water circulation must be provided.

STAIRCASES.

These should be planned to allow of the exit of a coffin from the bedrooms, as a very strong objection exists to lowering it from the bedroom windows. They should be ventilated and with direct light wherever possible.

Concluding with some general observations, Mr. Barnes said that the problem before us resolves itself in the adaptation of existing material, or material that will be available at the end of the war, for carrying out a large programme.

It is doubtful whether the material will be available or in existence in the time required for the building of the houses, and the utmost ingenuity will have to be exercised in the selection of substitutes which can be produced locally. In any case, the importation of foreign material should not be contemplated in overcoming the difficulty, as the shipping shortage will be serious in the extreme after the war, and what shipping is available will be more than fully engaged in replenishing our food supplies and the raw materials for our industries. New and ingenious methods of utilisation of concrete, of steel in very light scantlings, of asbestos products, etc., can doubtless be developed; but it is equally important that the higher standards now rightly demanded shall show progress in the spheres of sanitation, ventilation, general hygiene, and aesthetics.

Sir Herbert Neild, speaking at the meeting of the Middlesex County Council last Thursday, in support of retrenchment in printing, said that every public department was wasting money in that way. Parliament was not the only offender. The other day the Carnegie Trust sent out a book like a Family Bible, on baths and wash-houses. It was a scandal to have allowed it to be issued.

BUILDING PLANS DURING THE WAR.

The following table (given by the *Labour Gazette*) brings statistics down to a slightly later date than that of those we have already given, and still further emphasises the disastrous decrease of work during the past seven years, especially as regards dwelling-houses, and shows for the years 1911-17 the estimated value of building plans approved by the local authorities of ninety-three urban areas (the population of the districts included is over 12,000,000):—

Year.	Dwelling Houses.	Factories and Workshops.	Shops and other Business Premises.	Churches, Schools, and Public Buildings.	Other Buildings, Additions, and Alterations.	All Classes of Buildings.
	£	£	£	£	£	£
1911	6,284,506	2,176,037	1,578,818	2,586,245	2,056,731	14,682,337
1912	5,486,249	3,422,239	1,378,402	1,918,818	2,249,463	14,455,174
1913	5,662,032	3,266,278	1,699,469	2,612,334	2,494,064	15,734,174
1914	5,647,551	2,712,265	1,899,521	2,220,382	2,113,120	14,592,839
1915	2,515,825	3,700,724	1,266,053	958,087	1,634,663	10,005,352
1916	866,427	3,595,669	677,456	260,934	1,807,142	7,218,328
1917	409,691	3,883,964	696,450	112,686	1,790,184	6,892,975

Building Intelligence.

BELFAST.—The Belfast branch of Auctioneers' and Estate Agents' Institute has undertaken to provide totally disabled soldiers and sailors with dwellings. It has acquired an acre and a quarter of land, on which will stand fourteen houses, eight of which are now in the course of erection. The total cost will work out at something about £7,000. Each of the eight semi-detached houses, which contain a kitchen, sitting room, three bedrooms, and a bathroom, will cost about £450. Several detached houses have been promised by members of the Institute in memory of their fallen sons or relatives. Messrs. C. and W. McQuoid are the builders and the hon. architect is Mr. W. J. Walshe.

CALCUTTA.—The new Royal Exchange Building, Calcutta, the foundation-stone of which was laid on February 9, 1915, was opened on February 25 last. The total cost has been about Rs. 8 lakhs. The massive Loggia columns with their finished Corinthian capitals are of reinforced concrete with a clear height of 41 ft. 2 in., battered from 3 ft. 4 in. to 3 ft. Marble has been extensively used for the flooring of all the principal rooms, and the main staircase with its balusters is entirely of this material. The interior decoration work is largely in plaster, the ornamental ceilings being worked *in situ* on metal lathing suspended from the floor joists and beams. Other features are the doors and windows with their brass fittings, the marble gallery with cast-iron railing and brass hand-rail, the finished sanitary fittings and the lifts. The work throughout has been under the personal supervision of both Mr. T. S. Gregson and Mr. H. Foster King, assisted by Mr. John H. Horniman, A.R.I.B.A., the latter acting as clerk of works. The design is the work of Mr. T. S. Gregson, A.R.I.B.A., of the firm of Messrs. Gregson, Batley and King, architects, Bombay; the building contractor is Mr. J. C. Banerjee, of 21, Canning Street, Calcutta. We congratulate both architect and contractor on the unqualified success of their work, and the Chamber of Commerce and City of Calcutta on such a notable addition to the city's architectural gallery.

OBITUARY.

Lieutenant-Commander James Dawbarn Young, R.N.V.R., who was killed in the raid on the Belgian coast on April 23, was born in 1877, and was the second son of Mr. Andrew Young, for many years valuer to the London County Council, and Mrs. Young, of Princes Risborough. He adopted the profession of a surveyor, becoming a Fellow of the Surveyors' Institution. He was subsequently called to the Bar at Gray's Inn and practised on the South-Western Circuit. He was Honorary Examiner in Law to the Surveyors' Institution, and author of several legal works. He was a keen yachtsman and at the outbreak of war joined the R.N.R. as sub-lieutenant. He was subsequently promoted lieutenant in the R.N.V.R. and appointed to the command of a motor launch of the Dover patrol. In 1916 he was mentioned in dispatches and promoted Lieutenant-Commander. The funeral took place last Saturday afternoon at Sanderton Church, Princes Risborough, a detachment of officers and men of the Dover patrol acting as bearers.

A demand by builders in the Preston district for an advance of 20s. a week on pre-war rates has been satisfied by an advance of 16s. from April 27, and an additional advance of 4s. from July 27.

The small model of the full-sized statue of Field-Marshal Lord Wolseley, designed by Sir W. Goscombe John, R.A., and destined after the war to be erected in Trafalgar Square, will be exhibited at the forthcoming exhibition of the Royal Academy.

The death, on April 17, is announced, at his residence, "Ferguslie," Sanguhar Road, Forres, of Mr. Peter Fulton, architect. He was fifty-five years of age, and is survived by a widow, five sons, and two daughters, three sons being on military service.

Our Office Table.

The annual meeting of the North Wales Branch of the Welsh Housing and Development Association was held last week at Llandudno Junction, Mr. Taliesin Rees being voted to the chair in the absence of Mr. E. T. John, M.P. The annual report of the council for 1917 gave the outlines of a scheme which the association was preparing to carry out when conditions permitted, and also details of work already done, including efforts to increase the minimum wages of agricultural labourers from 25s. to 30s. per week; special investigations into the condition of the North Wales quarry industry, etc. It was reported that, despite the unfavourable conditions arising from the war, the membership of the association had been well maintained, while there had been a substantial increase in the number of affiliated bodies, which now numbered sixty-one, as compared with twenty-nine in 1916. The income of the association during 1917 was £674, and the expenditure £577. Sir Ellis J. Griffith, M.P., was re-elected president, Mrs. Lloyd George vice-president, Mr. E. T. John, M.P., chairman of council, and Mr. Hugh Hughes vice-chairman.

"The Empire Municipal Directory and Year Book" for the official year, April 1, 1918, to March 31, 1919, contains a complete and officially corrected directory of all the corporations, county, borough, urban, and rural district councils and port sanitary authorities in Great Britain and Ireland and the Channel Islands, with the names of their clerks, engineers, surveyors, medical officers, architects, etc., and the offices and places of meeting of all the corporations and councils and their telephone numbers, and their municipal undertakings. A directory of the municipalities, shire councils, etc., in all our Oversea Dominions, and their officials is also included. Informative and statistical data for municipal officials will be found; also specially contributed articles on road engineering, housing, and town planning, sewage disposal, public water supplies, public fire services, public cleansing work, practical sanitation, British engineering, concrete construction, and waste utilisation. Lists of all the Government departments concerned with Local Government administration, and the Acts of Parliament, Orders, and Regulations passed since 1914, and also lists of scientific institutions and societies are furnished, and there is a municipal war legislation section, compiled by Randolph A. Glen, M.A., Barrister-at-Law, which comprises all the statutes, orders, and regulations enacted or issued since August, 1914. The diary pages cover the Local Government official year, April 1, 1918, to March 31, 1919. The volume comprises 378 pp., Roy. 4to, price 5s. net (post free 5s. 6d.), is considerably enlarged over last year's issue, and is published by the proprietors of *Municipal Engineering and the Sanitary Record* (the Sanitary Publishing Co., Ltd.), 8, Bream's Buildings, E.C.

The Norwegian town of Kristiansund is situated on four islands that are separated by deep arms of the sea. This town has recently been equipped with gas mains, the laying of which under the sea was a difficult problem. The mains, which had to be deposited up to depths of 26 m., consisted of steel Mannesmann tubes in lengths of 10 m. and with a diameter of 10 cm., the sections being screwed together by connectors. The operation of connecting was carried out by divers, who connected to the sections already laid long sections that had already been screwed together on land into considerable lengths and subjected to a pressure test. As portions of the gas mains lying at great depths constitute traps for water, it is necessary to ensure that the gas to be carried is completely freed from water. This is attained by causing the gas to pass for a considerable distance through tubes surrounded with cooled air, and collecting the water that is deposited in special receivers.

The waste wood obtained in the manufacture of stocks for rifles may be used success-

fully for making floors in metal workshops, according to the *Zeitschrift des Vereines Deutscher Ingenieure*, May 26, 1917. Nut-wood is one of the finest and most expensive varieties, and is particularly suitable for the manufacture of stocks for rifles. It would have been out of the question formerly to think of making floors with this wood, as its price would have been prohibitive in comparison with that for floors made of pinewood and the like. During the war a large quantity of waste pieces of nut-wood have been accumulating, and successful tests have been made to utilise them for making wood blocks for floors. The pieces are cut into thicknesses of between 4 and 6 cm. in such a manner that they can be laid on a cement foundation about 15 to 20 cm. thick with the cross-cut surface upwards. The blocks are impregnated and laid as close to one another as possible, and then coated twice with the material that is generally used in laying wood-block floors. Floors made with this material are very satisfactory, as, owing to the careful treatment that the wood has undergone for its prime purpose in making stocks, it lies quietly and is not affected by changes of temperature and humidity.

The Corporation of London propose to take drastic steps to prevent alien enemies from participating in any contracts given out by them. The proposals will affect particularly Germans, Austrians, and Hungarians, and businesses 5 per cent. of the capital of which is subscribed by such persons, unless they were naturalised in this country before December, 1900, or have sons who have served voluntarily in the Forces during the present war. The Corporation also have authorised one of their committees to present a Bill to enable them to revoke the grant of Freedom where it is considered necessary.

On March 31, 1917, a Decree was issued under which Portland cement of Uruguayan manufacture is permitted to be imported into Argentina in bags in place of barrels when intended for national public works, and if the brands have been previously approved by the Argentine Ministry of Public Works for use in such works. Previous to this Decree, the specifications in cases of calls for tenders for Portland cement for public works stipulated that it must be supplied in barrels. A further Decree, dated February 1, is to the effect that the above-mentioned Decree of March 31, 1917, is amplified in the sense that equal permission is conceded to all manufacturers of Portland cement of approved brands to import it into the Argentine packed in bags, provided the cement is intended for national public works, in which the storage, climatic and other conditions of the place where they are being carried out, etc., permits it. This condition must be mentioned in the specifications connected with the calls for tenders.

Under another Timber Order, 1918, issued last Friday by the Board of Trade, timber dealers must obtain permits in respect of timber grown outside the United Kingdom. The Order will, it is expected, be followed before long by another, regulating not only dealing in timber, but also its use in this country, whether grown outside or inside the United Kingdom. Virtually the entire importation of timber will be effected on account of the Government. The present Order is not designed to interfere with the normal business of firms established in the Dominions or Colonies as timber producers, but is intended to prevent speculative transactions in timber in the countries of origin by or on behalf of persons in the United Kingdom.

At a General Assembly of Academicians and Associates last Friday, Giles Gilbert Scott, F.R.I.B.A., architect, and Philip Conard, painter, were elected Associates of the Royal Academy. Mr. Giles Gilbert Scott is the eldest son of Mr. George Gilbert Scott, and a grandson of the late Sir George Gilbert Scott, and a great-great-grandson of the Rev. Thomas Scott, the well-known commentator. He was born in 1880, and his principal works have been the New Star and Garter Home at Richmond for soldiers and sailors, Liverpool Cathedral, the Church of the Annunciation at Bournemouth; the Chapel of the Visitation Convent, Harrow, St. Maughold's Chapel and Presbytery at Ramsey, Isle of

Man, St. Joseph's Church and Presbytery, Sheringham, and the restoration of Chester Cathedral. Mr. Philip Connard was born in 1875, and some of his work has been purchased for the Welsh National Gallery, Cardiff.

PROFESSIONAL AND TRADE SOCIETIES.

SCOTTISH ECCLESIOLOGICAL SOCIETY—VISIT TO INVERESK.—On Saturday, the 20th ult., the Scottish Ecclesiological Society visited Inveresk, proceeding to the Parish Church of St. Michael, where they were received by the Rev. William Edie, B.D., minister of the parish. Dr. Ross spoke of the history of the church, which is largely built from Roman stones, the district being one of the richest in Scotland in these remains of the Roman occupation. In the church and vestry the old Communion cups, the beautifully bound books, and other items of interest were exhibited. Mr. Edie described the present church, and referred to its recent history. After being entertained to tea at St. Michael's House by Mrs. Menzies, Inveresk House was visited, the well of St. Michael's and the Fairy Well being seen, and the Roman Hypocaust and other remains inspected. A visit to Inveresk Gate, the residence of Admiral Sir Berkley Milne, concluded the excursion.

LIST OF TENDERS OPEN.

ENGINEERING.

May 7.—For a boiler for Tooting Military Hospital, Church Lane, Tooting, S.W.17.—For the Guardians of Wandsworth Union.—The Clerk to the Guardians, St. John's Hill, Wandsworth, S.W.18.

IRON AND STEEL

May 4.—For about 250 tons of cast-iron pipes, 6 in. and 9 in. diameter, and a few of 14 in. and 18 in. diameter.—For the Glasgow Corporation.—J. Lindsay, Town Clerk, City Chambers, Glasgow.

May 18.—For cast-iron pipes and special castings; cast and mild steel steam pipes and galvanised mild steel and wrought-iron pipes; and two boiler feed pumps and their erection, at Sheerness East pumping station.—For the Sheerness Urban District Council.—V. H. Stallon, Clerk.

SANITARY.

May 3.—For quantities as required (not less than 10 tons) of disinfecting powder and a quantity of disinfecting fluid (one year).—For the Dewsbury Corporation.—H. Ellis, Town Clerk, Dewsbury.

TIMBER.

May 4.—For 20,000 wood paving blocks.—For the Lambeth Borough Council.—B. Penny, Town Clerk, Lambeth Town Hall, Brixton Hill, S.W.2.

The death is announced of Mr. John Cantrill, the well-known senior member of the firm of John Cantrill and Sons, decorators, of 100, Oxford Road, Manchester, at the age of 72.

The death is announced, on April 17, accidentally killed at Gullane, E. Lothian, Second Lieutenant Donald Heriot Anson Cheers, R.F.A., the youngest son of the late H. A. Cheers, architect, Twickenham, and 73, Philbeach Gardens, and of Mrs. Anson Cheers, of Pine Moor, Harrogate.

FOR

Olivers'

Seasoned

Hardwoods,

APPLY TO—

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120, Bunhill Row, London, E.C.

TENDERS.

*Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender: it adds to the value of the information.

BURNTISLAND.—For construction of 9 in. and 18 in. relief sewers, for the Burntisland Town Council:—
Gray, A., and Co., Kirkcaldy .. £348 7 0
Jackson, J., and Son, Burntisland 188 4 5
Robertson, A. H., Inverkeithing* 169 2 9
*Accepted.

DARTMOUTH.—For waterworks, for the town council. Mr. F. J. Voisey, Borough Surveyor:—
Riley, J., Gloucester Road, Cheltenham .. £1,134 0 0
.. Accepted.

LONDON.—For substitution of asphalt for defective wood paving on Thames bridges, within four miles of Charing Cross (one year), for the London County Council:—
Limmer and Trinidad Lake Asphalt Co., Ltd., 17s. 6d. per square yard (accepted).

LONDON.—For construction of gully trap, drain etc., at the cemetery, for the Westminster City Council:—
Myring and Son £17 18 0
Jamieson, A., and Son* 7 10 0
*Recommended for acceptance.

WESTMINSTER.—For decorative work in the superintendent's lodge at the cemetery, for the Westminster City Council:—
Myring and Son £28 0 0
Jamieson, A., and Son* 18 0 0
*Recommended for acceptance.

WINCHESTER.—For conversion of boilers at electricity works, etc., for the town council. Accepted tender:—
Conversion of two boilers into one unit, with chain-grate stoker and superheater, Babcock and Wilcox, Ltd., £900 (subject to priority certificate); balancer, Vickers, Ltd.

J. Townsley, of Hull, slate merchant, has left net personalty £4,714; gross, £29,703.

At the Royal Society of Arts, on May 15, Mr. Percy Groom, M.A., D.Sc., F.L.S., Professor of Technology of Woods and Fibres, Imperial College of Science and Technology, will give a lecture on "The Timber Industry." Sir John Stirling Maxwell, Bart., will preside.

Mr. Ivor Beaumont has been entrusted with the execution of the War Memorial decorations for the Hampstead Garden Suburb E. Church, under Sir E. J. Lutyens, A.R.A. The subjects in sketch form have been approved, and are to go in the existing architectural spaces on each side of the great organ recess.

As the galleries of the Royal Academy at Burlington House are not required for the annual Dinner, which will not take place this year, the President and Council have decided to make the cards of invitation to the private view available for either Friday, May 3, or Saturday, May 4, from 10 a.m. to 7 p.m. The public will also be admitted to the exhibition on Saturday, May 4, on the purchase of a season ticket for 5s.

CHIPS.

The clerk to the Audenshaw U.D.C. has called a public meeting to consider a proposal to erect a permanent memorial to the local men fallen in the war.

Over 70,000 specimens of prehistoric Aztec civilisation recently have been recovered from the famous Aztec ruin in Northern New Mexico, according to an announcement by the American Museum of Natural History. Necklaces of shell and tortoise, agate knives, pottery vessels of various forms and ornamentation, cotton cloth, and woven sandals are among the finds reported.

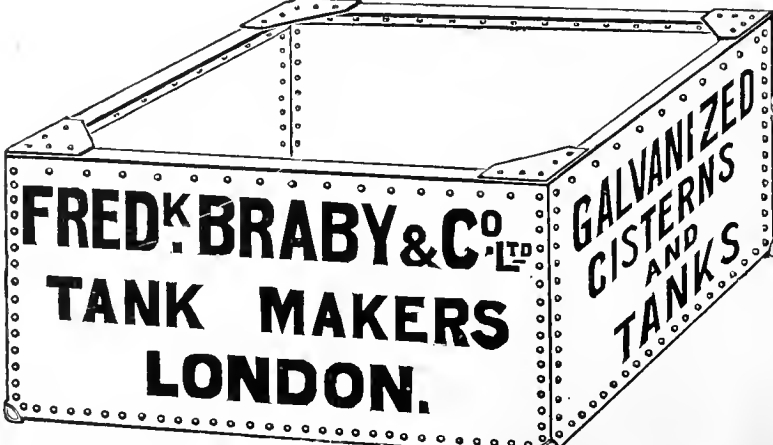
Every winter the cellar of Tanhouse Farm, Ipsley, has been flooded to a depth of 18 in. to 24 in. The walls have been made bone dry with waterproofed cement, but the floor has been left until the dry season owing to the permanent flow of water. By waiting until the summer, when the flood subsides, the expense of continual pumping will be obviated, and it is then proposed to cover the floor with Puddled concrete.

A meeting was held of the members of the Old Felstedian Society at Liverpool Street. It was decided to issue an appeal for funds for a Felsted School War Memorial, and to adopt the scheme of a committee appointed to consider the matter, recommending the erection of a memorial building in addition to a memorial in the chapel. It was suggested that this building might take the form of a new boarding-house for sons of Old Felstedians or a library, museum, and art school.

The Glasgow Institute of Architects is issuing to members of public bodies in the city a pamphlet, written by Mr. T. L. Watson, F.R.I.B.A., advocating the construction of a fixed bridge over the Clyde, at Lancefield Quay, with a headway of 75 feet above high-water level, and having a practically level roadway of approach from Argyle Street, at the foot of Elderslie Street, on the north, and from West Scotland Street on the south. This scheme has found favour with the Institute, and has been recommended by it to the corporation.

Second-Lieutenant Thomas Silver, R.G.A., who has been killed in action, aged thirty-nine, is the third member of the Birmingham City Council who has fallen in the war. He was an architect and surveyor by profession, and joined the Army 18 months ago, and was posted to the R.G.A. He was given his commission about three months ago, when he returned to the front. He showed great interest in corporation work, and was a member of the Education and the Tramways Committees. He leaves a widow and three children.

Captain Higgins, R.E., has been appointed Adjutant to the County of London Engineer Volunteers (headquarters, Balderton Street, W.1). Following active service in France, Captain Higgins has been, during the past two years, Senior Instructor at the London District Royal Engineer School of Instruction at Esher, where the Engineer Volunteers have carried out practice in heavy bridging, camp arrangements, obstacles, and the use of explosives. The report of a recent official inspection stated that the standard of efficiency reached by the corps in military engineering was very good, and was due primarily to the instruction provided at Esher, backed by the keenness and enthusiasm of all ranks.



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OUR ILLUSTRATIONS.

War Memorial Church, Basildon, Berkshire, view and plan. Sir Edwin L. Lutyens, A.R.A., Architect.

Strand, W.C.2

Dawn House, Winchester, Terrace end view. Mr. Ernest Newton, A.R.A., Architect.
War Memorial and Cloisters, Leys School, Cambridge. Bird's-eye view and key plan. Sir Aston Webb, K.C.V.O., C.B., R.A., F.S.A., Architect.
Housing of the Working Classes in England and Wales. Home Counties Area. First prize designs, Classes A and C, Urban Districts: Elevations, sections, and plans. Mr. Courtenay, Crickmer, F.R.I.B.A., Architect.

Currente Calamio.

The short debate in the House of Commons last Thursday on the Government's Housing Scheme convinces us, not merely that it is a radically bad one throughout—that has been evident to all practically acquainted with the subject from the first—but that Mr. Hayes Fisher knows it himself, but feels powerless to arrest another huge misappropriation of public money after the ghastly fashion with which the war has familiarised us, and which, if this Government is in office much longer means national bankruptcy. Mr. Hayes Fisher evidently knows what the State has done at Woolwich and Rosyth; what guarantee has he that the work of the local bodies will not be similarly wasteful? The immediate effect of the measure, as Lord H. Cavendish Bentinck pointed out, will be to encourage delay, to paralyse public utility agencies, and, as Sir J. Boyton said, would extinguish private enterprise, which has hitherto provided 95 per cent. of the houses of the working classes. When Mr. S. Walsh talked about "not closing the door to the necessity of using public utility societies and private enterprise," he surely spoke with his tongue in his cheek? If the scheme is forced on the public it will neither ensure speedy building nor provide houses where they are most wanted. Where and when they are built Mr. Hayes Fisher himself admits he "cannot say" by whom they will be occupied. The whole truth is that forces are prevailing at the Local Government Board which, as Mr. Rowntree declared, are contrary to the best desires of those who have real knowledge of the question, and it is neither likely nor possible that the real workers who are houseless will benefit by the scheme, nor is it really meant that they should.

Of the making of building by-laws there is no end. Nor is there likely to be when so many of them have to be made over and over again. For this is what a drastic amendment really comes to when it is found necessary to reduce a rigmarole to terms of common sense. The recent case of "The Governors of Repton School v. Repton Rural District Council," has now been before the Court of Appeal, which

confirmed the decision of Mr. Justice Bailhache. That learned judge had held that the model by-laws of the Local Government Board were void, as being unworkable. Three Lords Justices have approved this ruling, and dismissed the Council's appeal with costs. Both Courts were anxious, as they said, to support those model by-laws if that was anyhow possible, but it was not, and they may now be said to have been twice torn up publicly. The material facts were simple enough. The Governors of the school proposed to make alterations in one of their boarding-houses, which included an addition to the house of a projection three stories high with a room on each floor. The Council regarded this as a "new domestic building," and under By-law 12 of their model by-laws of 1877, required the provision of an open space in the rear of the building. The School said that this was impossible, as they could not increase the space in the rear of an old building for the purpose of giving more air to an addition to its front. The Court of Appeal dwelt upon the importance of the case, because it would affect a great number of by-laws throughout the country. They wanted to back up the by-laws if they could, and desired to construe them "benevolently." But they were bound to hold that this requirement as to increased air space in the rear was unreasonable, and therefore void. The regulations would apply to the addition of a porch or a bay window in front of an old building, and this fact alone shows their absurdity and unworkableness. Perhaps some day, after the war, we shall get quite a new set of model building by-laws which can at least be understood!

We can only spare space for that portion of Lieut. Martin's paper, read at the Surveyors' Institution on Monday night, dealing more especially with our own callings. We do not think he has proved his case, or that it is the fact that, while the varied opponents of the "International" system have for many years combined against it, no one yet, although repeatedly challenged, has produced in black and white complete tables which they think surpass the "International" and should replace our own. But, if so, suggested adaptations have been numerous, and one is now before Parliament. It is needless to repeat the opinion we

have often expressed, but we may remark that the advantages and disadvantages of the British and the metric system have been fully discussed in our own pages in the recent past. See, for instance, pp. 111, 163, and 187 of our issues of August 2, August 16, and August 23, 1916. Also our own reminder on p. 93, August 2, 1916, of Sir John Herschell's cogent comparison of "The Yard, the Pendulum, and the Metre," published by Longmans more than forty years since. Also our brief summary on p. 518 of our issue of November 29, 1916, of an address by Mr. George Moores, the secretary of the British Weights and Measures Association, of facts gathered during a visit to America, where, as is common knowledge, the engineers and all kindred constructors are almost unanimously opposed to any change to the metric system. By the way, before we change to a system based on an unscientific unit, if we really *must* change, might we not try the American system at present in use, which Canada also follows? Used by the British Empire and the Great Republic, it would not be long before it would be much more really "International" than the metric.

Messrs. James Connell and Sons have on view in their galleries in Old Bond Street an excellent assembly of typical paintings and water colours, as well as some etchings, illustrative of romantic and classical types of architectural composition, by Mr. W. Walcot, representing pictorially some of the monuments of the ancients, but in which the artist depends rather upon his capacity of visualisation to give graphic expression to a group of ideas. The success attained is mainly the fruit of Mr. Walcot's undeniable power of rendering his subjects as if he were sketching them actually before him, and thus his work is legitimately realistic, although imbued with an impressionist spirit, and detail is suggested rather than expressed. In No. 2, "An Assyrian Palace," for instance, is set on a rock platform rising out of a level Mesopotamian plain, a powerful oil painting of a brooding agnagion erection of temporal power that once dominated the land watered by the Tigris and Euphrates. Its semi-circular arched tunnelled entrances, grouped in three, form the portal leading to a series of courts beyond.

The next subject, "The Hecatompedon," an early temple south of the Erechtheion, illustrates an original of the pre-Persian period dedicated to Athene Polias, delineated with power and glowing with mural decoration in primaries, very likely of doubtful authenticity though splendid in scheme, but the detail of this 100-ft. façade for the cella is intentionally at most suggestive, though based upon possibly published archaeological studies. No. 5, "The Trojan House," in oils, is heroically grand. The interior of the Uspenski Sobor, Moscow, where the Tsars were crowned (15), we quite recently reproduced in our pages, and some of the other pictures we noticed a short time ago when they were exhibited at the Architectural Association in Bedford Square. Among the water-colours, No. 4, "The Corner of the Madeleine, Paris," and No. 6, "The Library of St. Mark's, Venice," are both delicate and admirably in scale with their subjects. The etchings, thirty-one in number, are very diverse but uniform in merit; all more decorative, of course, than topographical. Edinburgh, Paris, Westminster, Venice, and Egypt find Mr. Walcot equally at home and in love with his ideals.

ARCHITECTURE AT THE ROYAL ACADEMY.

This year the names of the Royal Academicians and Associates, for the first time, take their alphabetically proper sequence in the index of the exhibitors at the end of the catalogue instead of being, as heretofore, grouped in large capitals at the head of each section. This, for reference, is an advantage.

Sir Aston Webb, R.A., is well represented by six exhibits, including a pair of photographs, illustrating his masterly new façade to Buckingham Palace, seen from over the lake in St. James's Park, and, nearer to the east front, viewed from the Mall. Both emphasise the eminent success of the rebuilding scheme as compared with Blore's stucco elevation. The quadrangle of Leys School, Cambridge, with the new cloisters and War Memorial (1297) is shown by a pen-and-ink bird's-eye as reproduced among our illustrations to-day. Close by (1291), on the same wall, hangs modestly below the line a panoramic view of the proposed enlargement of Bloxham School, Oxfordshire, the additions being placed right and left of the chapel erected by George Edmund Street, whose work in no way suffers from these intended extensions, the whole effect being picturesque and harmonious. The War Memorial about to be carried out by Sir Aston Webb on Sharnhurst Hill for Christ's Hospital, near Horsham (1306), consists of a plain cross set above an enclosed walled-in space, elevated on a double-terraced platform, set out with grass slopes in a simple and appropriate manner, fittingly large in scale for an open site. The cross rises above wing walls, forming a plinth on which to inscribe a record of the fallen Bluecoat boys who fought and died for their country. The sixth building, by the same architect, is depicted by an enlarged elevational photograph, taken in Cockspur Street, of the offices built some years ago

for the Grand Trunk Railway of Canada (1385).

Sir Thomas G. Jackson, Bart., R.A., has recently made a firmly drawn pen-and-ink bird's-eye perspective of his characteristically designed Jacobean mansion in stone, known as "Grove Place," Hants (1403). The building is extensive in scale, and has twin octagonal towers flanking the entrance, which is deeply situated between long projecting wings, containing the drawing-room to the right, with the library to the rear and the dining-room to the left, adjacent to a capacious butler's pantry. This intervenes between the refectory and the grand staircase, the latter butting on to the entrance hall. The kitchen wing extends considerably to the left, and is fronted by a colonnade loggia arcade of graceful proportions, though seemingly its only practical use is to overlook the bowling-green. The distance of the kitchen has the advantage of isolating it, but all service for meals must pass through the main staircase hall. The Physiological Laboratory at Cambridge, given to the University by the Worshipful Company of Drapers (1369), is shown by a photograph. The Mansard roof, with its sloping lights and the enormous proportion of window space necessary in such a building, somewhat limited its architectural possibilities. The arcaded wall treatment in brickwork below, to the flanking premises on either hand of the pedimented middle feature, add to the restless appearance of the structure. The composite order carried by wall piers through the ground story unduly accentuate the vertical lines of the frontispiece. At the end segmental bay windows extend through both the main floors of the building with mullioned fenestration.

Sir Ernest George, R.A., and Mr. A. B. Yeates are represented by one drawing only—viz., The Entrance Side of St. Chad's Hill, a comely country house to be carried out in local sandstone near Kidderminster. The homely quaintness of this thoroughly English home is well suggested by Sir Ernest George's autographic brown wash perspective (1402), which we shall illustrate next week. The delightful water-colour sketches in the South Gallery are also worthy of his facile brush, 856 from Peterborough and 850 from Wells Cathedral precincts in both those old-world cities.

Mr. Reginald Blomfield, R.A., shows a couple of well-chosen large photographs of Suffolk Street and Pall Mall, premises which he erected some while ago for the United Universities Club in ashlar, and so well worked out in detail (1375 and 1381). Waldershare Park, carried out also by Mr. Blomfield, is for the Earl of Guilford. This mansion furnishes the subject for two other photographs on the same wall (1398 and 1406). The house was rebuilt after a recent fire in similar severe style of Georgian classic as the old fabric. It is well in harmony with the stern unsheltered uplands reaching over against Dover.

Mr. Ernest Newton, A.R.A., is content with two small photographs, one of which (1418) we reproduce—viz., "Dawn House," built on an elevated position towards the west of Winchester in red brick dressings with Sussex stock bricks, the roofs covered with tiles, the woodwork and circular-fronted porch being finished in white. The terraces, as seen in the picture, command expansive views looking far away from the North to the South. His second example of typical domestic building is (1417), "Feathercombe," Hambledon, a Surrey brick building with hipped roofs, of which we have previously given some perspectives.

The most original exhibit in the present exhibition is the war memorial church now in course of erection at Basildon, Berkshire (1,324), by Sir Edwin L. Lutyens, A.R.A., and shown by a water-colour, the work of Mr. W. Walcot. The view has a plan in the clouds coloured bright vermilion 'midst this stormy sky. The scale is remarkable, and the plain, massive walling of red brick, pierced by windows of restricted dimensions, enhances its impressive character of largeness, which suggests appropriateness for some dominating site such as Old Sarum, or where churches in old time were built with an eye to defence, as at Durham. The plan is most original and interesting, contrived to display war trophies and a great altar-stone placed in the nave below the cupola. The portals follow Italian lines, and the whole conception is hardly indicative of an English village of ordinary type; but this, we gather, is not intended, as Sir Edwin Lutyens is to erect almshouses, an institute, and all the village dwellings, too, in a corresponding style. We give a reproduction of the drawing in question.

Another church on similar lines, near the last named, but more in a Georgian style, a clever work by Messrs. Pick, Everard, and Keay (1,333), for Leicester, is designed in brindled brick, with a bold tower, adjacent to which, over the side chapel, are twin pediments, set towards the south. Pediments after the mode of the original church by Inigo Jones in Covent Garden also terminate the east and west ends of the main building. The vestry is a long distance on the N.E. from the Lady Chapel, and can only be reached by passing down through the choir into the nave or by going through the north porch. The design nevertheless is quite distinctive. On the same lines a pastel view is exhibited of a boldly-handled church proposed for Golders Green (1,351), by Messrs. Wills and Kaula. The square campanile, surmounted by an octagonal open turret, is somewhat impaired in dignity by this incongruous feature of overgrown size.

Sir Robert Lorimer, A.R.S.A., is deservedly placed with a series of photographs of his highly-ornate Chapel of the Order of the Thistle, St. Giles's Cathedral, Edinburgh (1,337), of which we have already published illustrations. He also exhibits the new choir stalls organ, and east end of Dunblane Cathedral (1552), which we illustrated not long ago.

Among the public buildings seen this year none surpass the boldly-designed "Australia House" in the Strand (1,372). The view, looking towards the Courts of Justice, is based on a photograph of large size, and a model to half-inch scale (1,371) shows the upper part at the east end. The architects, Messrs. A. Marshall, Mackenzie, L.L.D., and A. G. R. Mackenzie, have undoubtedly scored with one of the most successful modern works in the Metropolis. The Cunard Building, Liverpool exterior, is represented by a not over-bright photograph (1,383). We have given some space at different times to the illustration of this very monumental and scholarly building, designed by Messrs. Willink and Thicknesse in association externally with Messrs. Mewes and Davis. H.M. Stationery Office, now used as King George's Hospital during the war, in Stamford Street, is the work of Mr. Richard J. Allison, A.R.I.B.A. (1362), who has sent a photograph which suffers somewhat unduly, as the view foreshortens its breadth of effect owing to the neces-

sarily sharp perspective consequent upon its position. Hulme Hall, in Manchester University (1368), and the new tower, Manchester College, Oxford, where a new hall has been built (1318), serve to show how Mr. Percy Scott Worthington has realised in modern work the refined excellence of Tudor Collegiate design based on historic lines. His two enlarged photographs are among the most effective in this gallery. Mr. J. S. Alder is equally fortunate with his views of St. Catherine's Church, Neasden (1330); St. Barnabas Church, North Finchley, next to the last; and Potter's Bar Church (1347), all of which we have illustrated. Two rich examples of ecclesiastical woodwork by Mr. George Fellowes Prynn hang on this wall, viz. (1331), the rood and parclose screens, St. Cleer, Cornwall; also Rattlesden Church, Suffolk, rood screen (1334). Both works are locally traditional in their conception and well carried out. The same architect has an interior of St. Mark's Church, Purley, an entirely new building (1342). Close by is a striking water colour of Mr. Paul Waterhouse's church interior, to be built in conjunction with a parish hall and club house. The semi-circular vaulted nave has stone arches of low, wide proportions and a canopied wood pulpit, also a hanging rood tablet in colour over the chancel entrance. A marble altar and dwarf screen, with green stained stalls, shown by a brilliant water colour. The same architect shows a war memorial cross set in the open at Winchester (1294). The view is also delineated in a dashing crisp way by Mr. J. A. Swan.

Close to the above is a marble cartouche war memorial, erected at All Hallows' Parish Church, Tottenham (1296), by Mr. Maurice B. Adams, and it is carried out in the Stuart manner to harmonise with an adjacent big tomb for Sir Herbert Nield, M.P., Recorder of York. Mr. Raffles Davison has designed a clever and appropriate memorial to his son, Rupert Davison, a promising young architect killed in the war. This pastel drawing (1302) is one of the most effective in this room. Sir Hamo Thornycroft, R.A., shows a photograph of the Viceregal Memorial at Calcutta, surmounted by a splendid figure of Lord Curzon. The work is florid, with groups of statuary set at the diagonal points of the big platform enclosure, all very handsome and rich. Messrs. Ashley and Winton Newman are ably represented by the London School of Medicine for Women (1303), and Mr. Arthur Blomfield equally distinctive with his Council Chamber, Christ's Hospital, E.C. (1359) and the Bankers' Clearing House Committee Room (1397), all represented by photographs. Mr. Blomfield also sends his great bank in Pall Mall East corner, at the bottom of the Haymarket. We reproduced this water colour last year (1373). Captain Charles J. Blomfield shows the extensions which have been executed at Canterbury for St. Edmund's School (1293) in a picturesque manner. Professor Beresford Pite has sent a pen-and-ink study of the insurance offices' porch in Euston Road (1370), and Messrs. Hunt and Hunt show Drakenfield Court in elevation (1378). The Roll of Honour Hospital for Children (1382), by Messrs. Hart and Waterhouse, is a very bold and effective undertaking. Mr. Andrew N. Prentice has a most refined drawing of an excellent house near Cirencester (1391). Mr. Guy Dawber shows four or five photographs of domestic work, such as Wynn's Parc, Denbigh (1430), and the Court House, Broadway (1437), and Mr. Charles W. Bowles is equally satisfactory with the views of Newchapel, Surrey. Major Maurice Webb (1442) sends nice

work at "Furtherside," Woldingham, and Mr. Walter Cave, Aldenham Grange, Herts (1445). Mr. Maurice B. Adams exhibits his water colour of new almshouses at Chiswick, on land allocated for the purpose by the Duke of Devonshire (1364). Mr. T. E. Colcutt, in conjunction with Mr. Bertram Pegram, is represented by a model of the Mill Hill School War Memorial, a work of great refinement and sculptured delicacy, with columns on a circular form set on a hexagon base and domed above (1448). Mr. Temple Moore shows an excellent church at Basingstoke (1320, 1344, and 1356). Mr. W. D. Caröe is well placed with his design for Charing Cross Bridge (1387), and (1366) a large photograph of the "Library Passage," University of South Wales and Monmouth, at Cardiff, a monumental work which we have several times illustrated.

THE METRIC SYSTEM IN ITS RELATION TO THE SURVEYOR'S PROFESSION.*

By LIEUT. A. J. MARTIN, F.S.I.

THE PRACTICE OF LAND SURVEYORS.

As no working system is before the world other than the International it is the only system we can now discuss, and I wish my paper could have been started at this point and been entitled "Surveyors and the International System of Measures and Weights."

First let us see what the practice of surveyors has been in the past.

The land surveyor's chain of 22 yards is divided centesimally into 100 units, each of 7.92 inches; it was introduced by Edward Gunter in 1620, but only authorised by Order in Council on June 27, 1876. For levelling, that is to say for our vertical work, we surveyors use the centesimal part of a foot. These usages, some of 300 years' standing, and the fact that in towns we use a chain of 100 feet, demonstrate that surveyors have always preferred to work with a decimal system, and we must admit that even our partial adoption of some method of tens has helped us immensely. But it would help us, in many calculations that we now cannot even dream of, if our lineal measures were decimal and our square measures centesimal instead of the reverse being the case. Thus the side of an acre is the square root of 10 square chains, or of 100,000 square links, and the square roots of these figures is not a whole number in either case.

The following examples further illustrate the inconvenience of the present units used by surveyors:—

A fall of 8 feet per mile is 1 in 660, which requires quite a mental effort.

A fall of 1 in 600 is 1 foot in 9.09 chains—rather appalling figures.

1,597 inches equals 2 chains 0 yards 1 foot 1 inch, but no association of ideas carries the mind from one set of figures to the other, whereas it is seen at a glance that their metric equivalent of 40,564 millimeters is also 40m. 564mm.

Although the centesimal foot has certain advantages, it is a pity our horizontal and vertical measures and scales should not have a common basis†

There are no square furlongs and no lineal rods.

The side of a square-shaped acre is about 208 $\frac{3}{4}$ feet.

If the International system is adopted by us we could have a chain of 20 meters in length (equal to 21.87 yards instead of the 22 yards), divided into 200 links of 1 decimeter, or 100 links of the double-decimeter (equal to 7.87 inches against 7.92 inches in the link), and probably we should carry 5 pins instead of 10; and for levelling we should use the centimeter (equal to 0.39 inches) instead of the 1-100th of a foot (0.15 inches), the former being a much more convenient

* From a paper read at the Surveyors' Institution on Monday last.

† It may interest some to know that in South Africa the Dutch foot is often used for land, that is to say, for horizontal measurements, and, on the same plan, the vertical scales are for the imperial foot, because the buildings are to imperial measure.

unit for the sight, as the sample levelling staffs show. The centimeter levelling staff has been made in this country for many years for exporting to foreign countries and to some of the Oversea Dominions.

Thus our land surveying and levelling units could be metric throughout, and agree with the units of length to be used in all other trades and professions.

Land surveying brings us to the question of our ordnance maps. Our original ordnance survey is known as the "parish map," the 1:2500 as some call it, as it is to the scale of 1 meter to 2.500 meters, or expressed in another way, 4 decimeters to the kilometer. And the new town maps are to the scale of 1:500, or 2 meters to the kilometer. These scales were decided upon at the International Statistical Conference held at Brussels in September, 1853.

Yet what do we do? We do not even show an international scale on our maps, but only the reference fraction 1:2500, which the foreigner at once recognises as metric. But we indiscriminately—criminally I nearly wrote—describe them as to the scale of either:—

Parish map (a) 1 inch to 3.156 chains; (b) 1 inch to 208.3 feet; (c) 1 inch to .0395 mile; or (d) 25.344 inches to 1 mile. New town map (a) 1 inch to 41.66 feet; (b) 126.72 inches to 1 mile; or (c) 10.56 feet to 1 mile; and then, as though still further to hide the fact from the British people that the maps are really metric, we have the "sheet lines" (to use a technical expression for the lengths which the sides of the map represent) to British denominations.

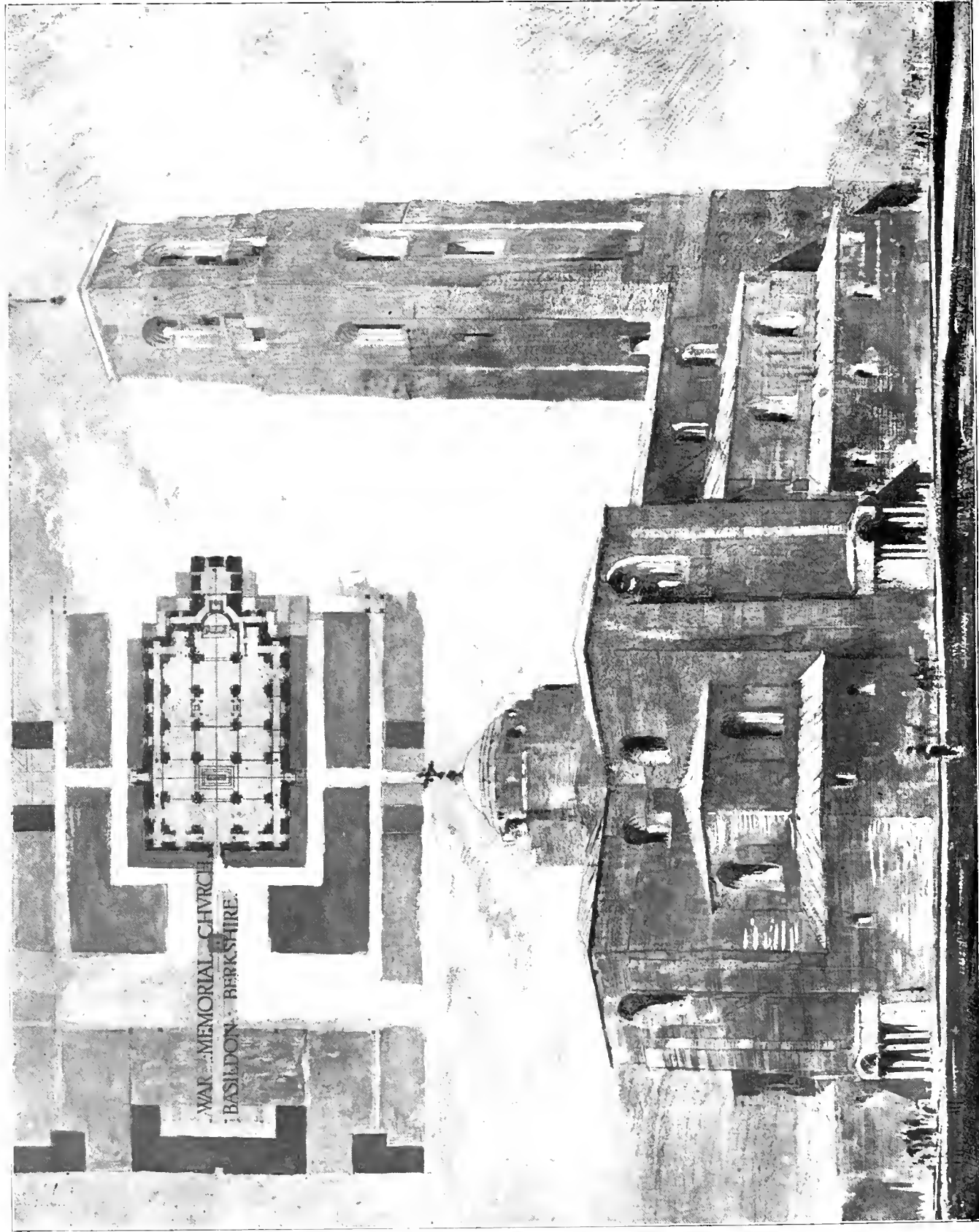
Messrs. Stanford have prepared for me the maps pinned up on the blackboard. They are made from the parish and new town maps of a naval base, and show plainly that our original ordnance maps are metric, and how the sheet lines could be adjusted to metric measures if desired. I chose this example of a naval base years ago as a warning, and since writing the draft of this paper I have heard that that naval base has been bombed. How easy when the flights are by kilometers and the maps of the land below are in kilometers, and when we surveyed the land for the enemy and plotted them to their scale, which we have so far not adopted for ourselves! If a foreign army were landed in this country all the sightings of the enemy's big guns, rifles, etc., would be to the same system of measures as our maps. But with us they would be different, and the scales on our maps are so complicated that, in our own country and with our own maps, we shall be more liable to errors regarding distances than the enemy would be. And yet the primary object of our maps was for military purposes, as the name "ordnance" indicates.

The parish and new town maps are photographed down to smaller scales, by complicated mathematical calculations, to the scales of 6 inches to 1 mile, 1 inch to 1 mile, and so on, until almost all trace and remembrance of the international system is obliterated and forgotten by the British, but not by the enemy.

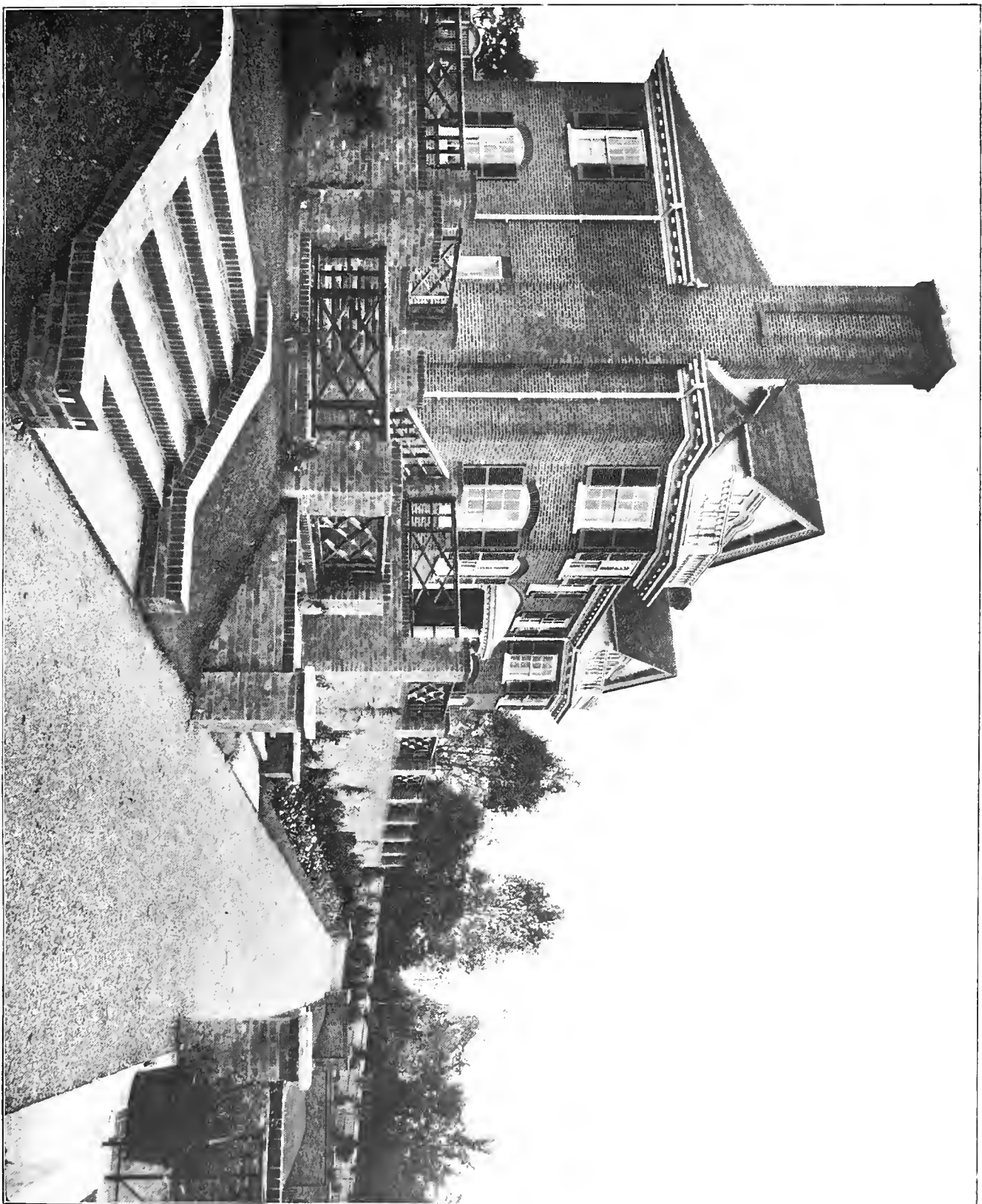
It should be noted that scales such as 10 inches or 10 feet to 1 mile are not decimal scales, as the inch and foot are not decimally related to the mile. A decimal scale is 1 of any unit to 10, 100, 250, etc., of the same unit, and such a scale makes it possible to use the map to any unit whatever of any country.

Further, we have had the full use in this war of the maps, for example, of France and Belgium to international scale. What have we done with them? Drawn lines across them showing blocks of one square mile and decimal divisions of the mile (1,760 "yards"), and so on. Yet the reports come to hand, "We have advanced x 'meters' on a frontage of y 'kilometers.'" The plain business man would describe all this confusion as a muddle. Are our guns sighted to fit in with decimal divisions of a mile or to chains? No, but in 100's and 1,000's of yards. And yet an approximate 10 per cent. change of the old sights would have given meters (all sights of new guns could have been made metric), and we should not have had to waste time altering the French and Belgian maps.

(Continued on page 356.)

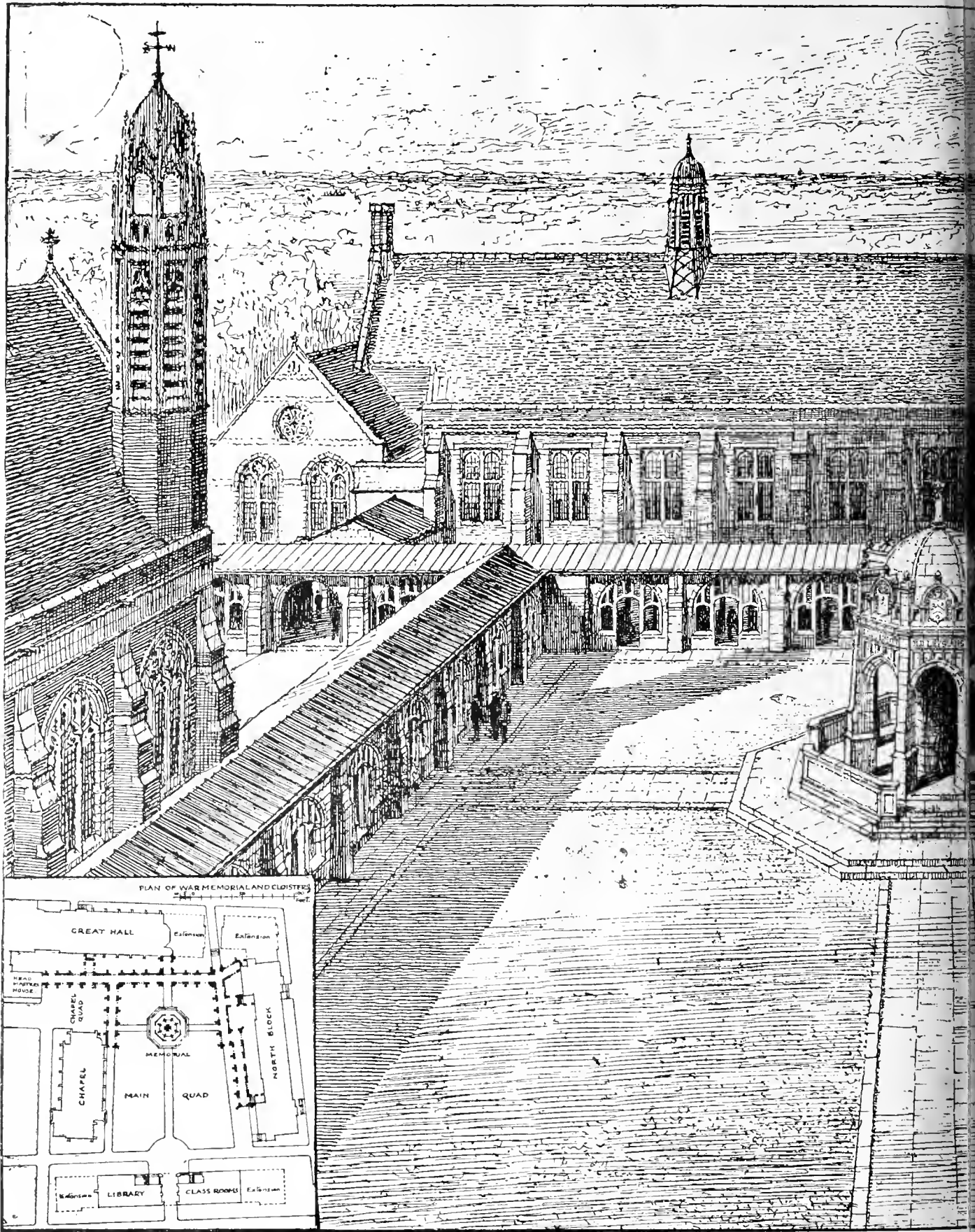


W. Watcott, [del.]
WAR MEMORIAL CHURCH, BASILDON, BERKSHIRE, 1918.--Sir EDWIN L. LUTVENS, A.R.A., Architect.



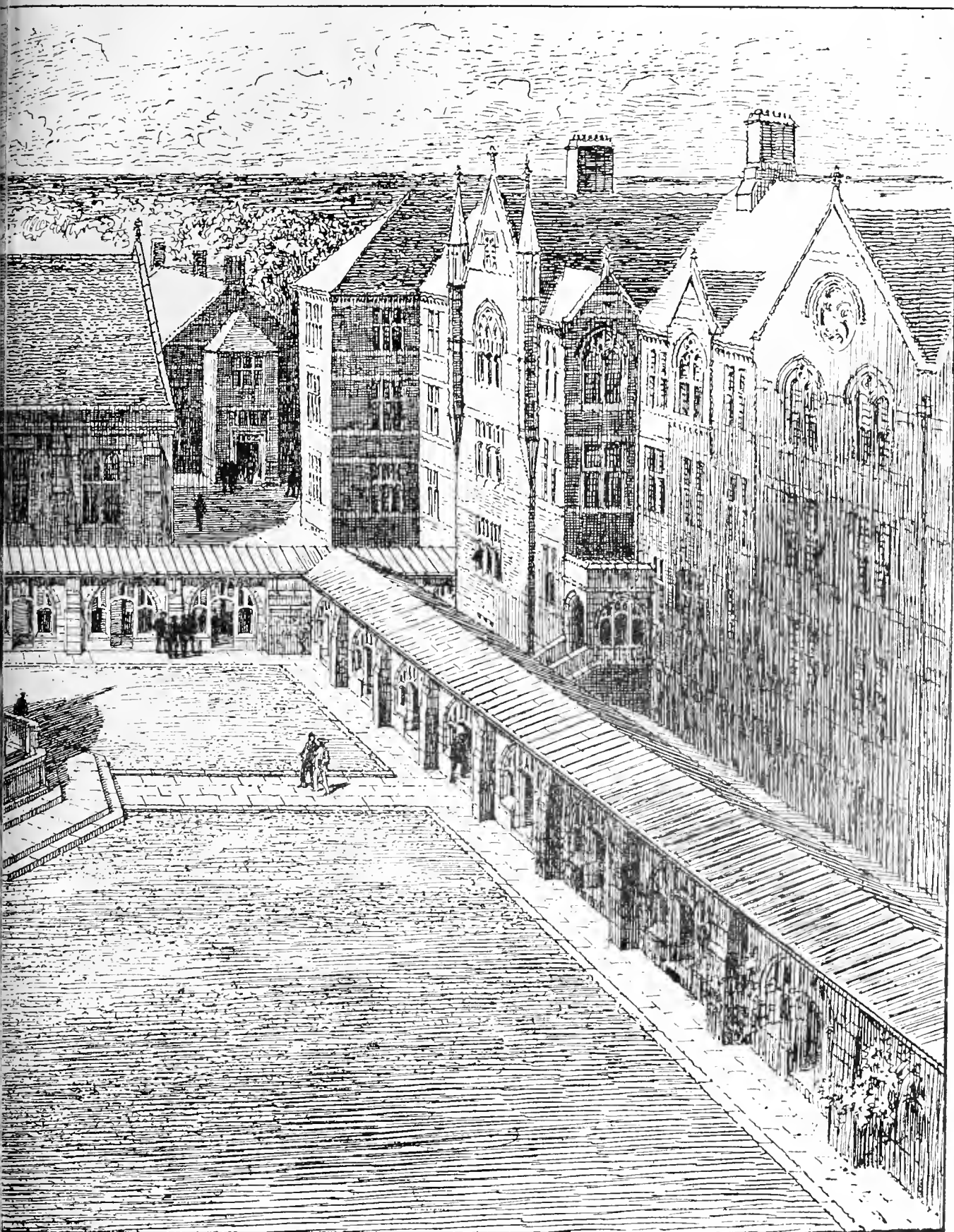
DAWN HOUSE, WINCHESTER: TERRACE VIEW.—MR. ERNEST NEWTON, A.R.A., Architect.





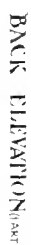
WAR MEMORIAL AND CLOISTERS, LEYS SCHOOL, CAMB

MAY 8, 1918.

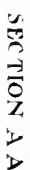
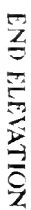


DESIGNED BY—Sir ASTON WEBB, K.C.V.O., C.B., R.A., F.S.A., Architect.





FRONT ELEVATION



AS THE FIRST FLOOR AREA MULTIPLE THAN THE
GROUND FLOOR THE CURVE ROOMS ARE PLACED
PARTLY IN THE ROOF IN THIS CLASS WITH SINGLED
THE FLOORS MULTIPLE. ALLOW ARE ASSUMING
THAT THERE CANNOT BE OBTAINED FOR
FLOOR 3

FOUNDATIONS: CONCRETE 6' DEEP
IF BRICK, OR CONCRETE
WALLS

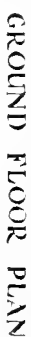
IF BELIEVED NOT OBTAINABLE WITH
OUTER 3" MINOR & SLABS
TIED TOGETHER

PAVATION) BRICK + S
GROUND FLOOR. CONCRETE.

1977 March

1ST FLOOR
CONCRETE WITH CONTINUOUS
REINFORCED MASON TIEB;
AS BUILT BY BIRDA & SONS
WAS NOT ENTERING AT
PIERS AT THAT TIME. OR ENTERING
FLOOR WITH STANDARD CONCRETE
NO REINFORCING
ALL TIEB'S WERE SET WITH
TIE BARS 1 IN. DIA. @ 12 IN
TIE BARS 1 IN. DIA. @ 12 IN

WEEP!
HOME GROWN TUNED &
TILLER (TAVES) TIESMANOA
COMBATED
WITH FELT BATTERS ONLY
4 C D SYSTEM WITH SHALE
NOT AHEAD, TO BE RUN IN
14 HOURS AT MINIMUM COBY
4-NO CRUISE, IS NECESSARY
ELEMENTS WITH CUB BAR DOWN
AND DOWN,



HOUSING OF THE WORKING CLASSES, ENGLAND AND WALES: HOME COUNTIES AREA.
FIRST PRIZE DESIGN, CLASS C, URBAN DISTRICTS.

FIRST PRIZE DESIGN, CLASS C, URBAN DISTRICTS.
Mr. COURTENAY CRICKMER, F.R.I.B.A., Architect.

Mr. COURTENAY CRICKMER, F.R.I.B.A., Architect.

Our Illustrations.

WAR MEMORIAL CHURCH, BASILDON, BERKSHIRE.

This church is being built as a memorial to the men of Basildon who have fallen in the war; it is to be built of thin red brick, Portland stone dressings, etc., and the roofs to be of stone slabs. The west end of the interior will contain an exhibit of trophies, and a great altar stone is proposed to be set up under the nave. On the north and south it is proposed to build almshouses, and facing it on the west a village institute and cottages, with a large open space between. The drawing here reproduced is at the Royal Academy, opened last Monday. Sir Edwin L. Lutyens, A.R.A., is the architect.

DAWN HOUSE, WINCHESTER.

This house, shown by a photograph from the Royal Academy this year, has been built on the high ground to the West of Winchester. The land slopes considerably from north to south; the materials used for building were Sussex clamp bricks, with dressings of deep red Wrotham bricks. The tiles were also from Wrotham. The general contractor was Mr. Wise, of Deal. The motor house and cottage and all the garden walling, steps, etc., were carried out by Messrs. Mussell-white and Son, of Basingstoke. The earth work of the gardens was carried out by Mr. Wilcox, of Winchester. Mr. Wells was clerk of works. Mr. Ernest Newton, A.R.A., is the architect.

WAR MEMORIAL: LEYS SCHOOL.

This memorial is proposed to be placed in the centre of the quadrangle of the school, and consists of a central octagonal column, on four sides of which will be tablets to receive the names of Old Leysians who have fallen in the war, and niches on the other four sides containing figures of Courage, Justice, Mercy, and Truth. This column would be protected by an outer arcade with a vaulted ceiling covered with a dome, which would be finished with a large golden crown. Round the base of this dome are panels with the arms of the school, the Army and the Navy, the whole being raised on a stone platform and protected by a low panelled wall. It is also intended if funds allow to construct a covered cloister to connect the various buildings, giving access from the north building to the dining hall, the school hall, and headmaster's house, and also to the chapel. The architect, Sir Aston Webb, R.A., is represented by this drawing at the Royal Academy Exhibition, opened to the public last Monday.

HOUSING OF THE WORKING CLASSES: ENGLAND AND WALES HOME COUNTIES AREA: FIRST PRIZE DESIGNS.

Mr. Courtenay Crickmer, F.R.I.B.A., of Lincoln's Inn Fields, was awarded the first prize in the recent competitions for cottages in classes A and C for the London and Home Counties areas. He also won the second prize for class B. The only review published on this competition in any professional journal appeared in *THE BUILDING NEWS* for March 27 last, when we rather carefully described these plans. To-day we reproduce the actual drawings for which £100, the premier prizes, were taken in each case, A and C. Mr. Crickmer's number being 173 for both as well as for class B. This last-named design we shall illustrate shortly. The plans accompanying our plates to-day are fully described by the marginal notes on the sheets, and it is essential that the actual competition drawings should appear in order that the schemes as chosen should be accurately placed on record and be properly shown. The author's aim in designing these cottages was to regard them as types rather than groups of cottages. For this reason they were kept as simple as possible and attractive features, gables, etc., omitted, although these features might be most desirable in any particular block of cottages. In class C the Dormer windows were employed, as the area of the ground floor was much greater than that required on the first floor, and the loss of space owing to the sloping roof is made up for by the extra area of floor space.

THE METRIC SYSTEM IN ITS RELATION TO THE SURVEYOR'S PROFESSION.

(Continued from page 345.)

Another question may be asked. If all our principal ordnance maps are really metric, how could we show the areas thereon in metric denominations? Once more the answer is simple. Present areas are shown in acres and decimal parts; printed conversion tables could be issued as in the old days, when land agents troubled to convert decimal parts of acres to roods and poles, and on all reissues of the sheets the metric areas would be inserted instead, and metric scales shown on the maps. In the meantime an approximate rule would be to multiply acres by 2 and divide by 5, or multiply by four and point off one place to bring to hectares.* Tenants of estates would perhaps receive from their landlords revised schedules of their lands, and when wishing to grub up hedges, etc., so as to make their fields more suitable for motor-ploughing, would, where just as convenient, replant new boundaries so that convenient metric areas were enclosed.

Contour Lines.—The contour lines on our maps are generally shown at intervals of 50 feet, 100 feet, or 200 feet, equal in metres to 15.24, 30.48, and 60.96. These intervals do not affect our commerce, farm work, etc., and therefore this is less important, but I suggest that when the maps are revised, by rotation which occurs about every 20 years normally, intervals of 25 and 50 metres should be used. The contour lines are mostly sketched on by experts, all of whom could just as readily sketch on the new intervals; in fact, surveyors or the military could generally calculate for themselves from the existing lines where the metric intervals come. These vertical intervals are important for artillery and machine-gun work, and we may rest assured that the Germans have placed such vertical intervals on our metric maps for their use if occasion arises.

Spot-levels could, of course, easily be altered.

Timber.—Measuring for round timber would be done by the same formula as now, but the quarter-girth would be taken in centimetres instead of inches and fractions, and the length in decimetres instead of feet and inches, and the result divided by 100 would give cubic decimetres instead of cubic feet. Knowing the specific gravity of any particular timber (and they would be given on our measuring poles or in our new "Hop-pins"), the contents of a tree could be readily expressed in kilogrammes or parts of tons also. Underwood would be calculated by the cubic metres or short hundreds (five-score). Hewn imported timber is generally to metric dimensions, although we take near imperial equivalents and work laboriously with them.

Hay and Straw Stacks.—The weights are now calculated by estimating the weight of a cubic foot or cubic yard, and would be measured up into cubic metres, the weight of a cubic metre being the unit to be estimated, conversion tables being used until those concerned were accustomed to the new unit. A few might prefer the method of estimating what height a ton would be, the base of which was 1 square metre, but hay and straw being so light, I have not shown any height on the arm of the model.

Two trusses of hay and 3 of straw would go to the centner, and 40 and 60 trusses respectively to the metric ton. The new system would not interfere with the stackman's method of cutting by measurement, but if 100 lb. avoirdupois were adopted for the hundredweight it would interfere with the cutting.

Corn.—Quite apart from what system of measures and weights we adopt, unless corn in the sack is sold by weight only, or by measure only, there will always be the four methods of sale by weight, measure, measured weight, and weighed measure (see Parliamentary Paper 279, of 1892, entitled "Corn Sales"). Probably the best method under the international system is to sell all quantities above, say 10 kilogrammes at per 50 kilogrammes (sometimes known as a

centner or 100 international pounds). Reasons have already been given for not adopting the 100 avoirdupois pounds. If all Government returns were published in weight only, anyone could readily ascertain the fair price of the loaf. But should it be desired to retain the system of measure by weight, then convenient statutory hectolitres for wheat, barley, and oats, would probably be respectively fixed at 150, 125, and 100 half-kilos or international pounds. My own opinion is that the farmer would always be thankful for the adoption of the metric system if for no other reason than that its introduction would be the means of simplifying the methods of converting produce into money. At present there are at least 200 different standards for the sale of agricultural produce.

Tithe Rent-Charge.—Some years ago I experimented with these convenient figures for wheat, barley, and oats, and found that they would not affect the average value of tithe rent-charge for the years 1835 to 1905 to any appreciable amount; in fact, if Norfolk malted barley were sold by weight any small difference would be neutralised. The question is only of interest to the few experts who have the fixing of the annual value of a £100 tithe rent-charge; but should anyone wish to go further into the question, I would refer him to the Parliamentary Paper on "Corn Sales" and to pages 148 to 150 of "Martin's Tables" already mentioned. The particulars there given show that one of the most complicated of all questions has an easy solution in figures easily retained in one's mind.

(To be continued.)

LEGAL INTELLIGENCE.

COMPENSATION APPEAL.—The Court of Appeal last Wednesday allowed the appeal of the employer in the case of Philric v. Hayes, in which the judge of the Barnsley County Court had awarded compensation to a workman who was allowed by his employer, a contractor who was carrying out the extension of some munition works, to sleep in some huts at a charge of 2d. per night, but not obliged to do so, and who was injured by the blowing down of the hut by a storm while he slept. The County Court judge held that the workman was in continuous employment, and that the accident must therefore be taken to have arisen out of and in the course of this employment. Lord Swinfen Eady, Lord Haldane, Lord Atkinson, Lord Justice Bankes, and Mr. Justice Neville all held that the decision of the County Court judge could not be sustained, the last-named judge remarking that the leading case of Davidson v. McRobb was not before the learned judge when he gave his decision, or he could not have used some of the expressions to be found in his judgment. The appeal was allowed, with costs.

COSTLY BUS SKIDDING.—Mr. J. F. Stevenson, valuer and surveyor, of Queen Anne's Street, W., was awarded £3,000 damages in the King's Bench Division on Thursday last on a claim for damages for personal injury against the National Steam Car Co. The action was heard by Mr. Justice Bray, sitting with a special jury. The plaintiff stated that he was walking along Piccadilly on the afternoon of March 22, 1917, when one of the company's omnibuses struck him in the back, injuring his spine and left arm. He alleged negligence on the part of the driver of the vehicle in allowing the car to mount the pavement or the front part of it to project over the pavement. At the time of the accident, said the plaintiff in evidence, he had just recovered from the effects of a previous accident, for which he received £1,000 damages. The defendants denied liability, and said that the accident was due to the skidding of the bus. No skill or care could have avoided the accident. The jury returned a verdict for the plaintiff, awarding the damages mentioned above. His Lordship entered judgment accordingly, with costs.

WHAT IS A "DOMESTIC BUILDING."—The Governors of Repton School v. the Repton Rural District Council.—On Thursday last Lord Justice Pickford, Lord Justice Warrington and Lord Justice Scrutton, sitting in the Court of Appeal, delivered a reserved judgment to the effect that one of a set of model by-laws framed for adoption by local authorities and designed to secure adequate air space for domestic dwellings was void on the ground of unreasonableness, because it would apply to any additions to existing houses—such as a

* Approximately 2½ acres are equal to 1 hectare; the error is only about 1 per cent.

porch or a bay-window—which, under the Public Health Act, 1907, come within the definition of new buildings. The by-law in question was in these terms: "Every person who shall erect a new domestic building shall provide in rear of such building an open space exclusively belonging to such building and of the aggregate extent of not less than 150 square feet and free from any erection thereon above the level of the ground except water closet, earth closet, or privy, and an ashpit." The appeal was made by the Repton Rural District Council against a decision of Mr. Justice Bailhache, who held that the Local Government's model by-law had become unworkable and void. We commented on the case at the time on p. 381 of our issue of November 14 last, and hoped it would encourage builders and others to fight any other equally unreasonable, unworkable, and therefore invalid "model by-laws" of the same sort. In 1916 the governors of Repton School proposed to make alterations in one of the school boarding-houses. The alteration included an addition to the house of a projection three stories high with a room on each floor. The alterations were begun in August, 1916, without the deposit of any plans with the defendants, the local authority. The local authority demanded that plans should be deposited. This was done, and on September 28, 1916, the defendants resolved that the plans should not be approved of, as the addition did not comply with by-law 12, quoted above. Lord Justice Pickford, in his judgment, said: The defendants refused to approve the plans because they did not comply with by-law 12. They only sought to compel the plaintiffs to comply with the requirements of this by-law so far as the three-story addition was concerned, and in the argument it was admitted that the bay-window and the porch were of such a nature that it was not possible to comply with the requirements. In other respects there was no objection to the plans. This is an important case, because it affects a great number of by-laws throughout the country. I agree that by-laws, especially those of public bodies, should be approached from the point of view of upholding them if possible, and should be "benevolently" interpreted, but still they must be reasonable. I think that Mr. Justice Bailhache stated the considerations to be applied quite accurately. The question is not whether it is possible in some particular cases to find a use of the by-law which is reasonable, but whether the by-law itself, looked at in the light of all the cases to which it applies, is so vague or so unreasonable as to be invalid. I think that a by-law which prohibits additions of this kind where no good objects could be served by doing so, because it contains requirements framed for other purposes and inapplicable to these circumstances, is so unreasonable as to be invalid. I think this by-law applies to all additions which are new buildings as defined by the Public Health Acts Amendment Act, 1907, and as applied to such additions it is so unreasonable as to be *ultra vires*. The appeal must be dismissed, with costs. Lord Justice Warrington and Lord Justice Scrutton concurred. The appeal was accordingly dismissed, with costs.

Mr. A. R. Carter, assistant borough surveyor of Blackpool, has been appointed temporary acting borough surveyor at a salary of £400 a year.

The National Academy of Design, New York, has telegraphed to the Royal Academy an expression of "its admiration for the heroism of England in this trying hour for art and civilisation."

The Salaries and Wages Committee recommended last week that the salary of the burgh engineer of Edinburgh be increased from £800 to £1,000 per annum as from May 15, thereafter rising by increments of £100 per annum to £1,200. The recommendation was remitted back to the committee.

It would appear that the wastage of war has exhausted the supply of metal obtained from the wholesale confiscation of church bells in Germany, as the Prussian War Minister has given a broad hint it may soon be necessary to commandeer many of the statues without which no German town is complete.

The death is announced, on May 3, at Brimley House, Teignmouth, Devon, of Mr. William Frederick Yeames, R.A., aged eighty-two. His works were frequently exhibited at the Royal Academy during the mid-Victorian era, and also at Paris, Berlin, and Brussels. He was also later Librarian at the R.A., and Curator of the Painted Hall at Greenwich Hospital.

Our Office Table.

Bootle Town Council, at last Wednesday's meeting, unanimously approved of a protest by the Health Committee against the ambiguous nature of the Government proposals for the housing schemes of local authorities. The resolution urged the Government to contribute 75 per cent. of the actual annual deficit arising in connection with any scheme; to fix at the outset the proportion of cost to be State borne; to give local authorities power to purchase at reasonable prices any land required; and pointed out that no local authority would be justified in undertaking the duty of carrying through a programme of housing for the working classes on such uncertain terms as were now proposed.

Bishop Frodsham, formerly Bishop of North Queensland and now Canon of Gloucester, graphically describes the successive cyclones of phenomenal violence which struck two sugar districts in North Queensland early this year, devastating towns and country alike. All the church buildings within an area of a hundred square miles were ruined, and the disaster was all the more crushing to the population because not only the cane farms, but also the houses, wharves, and mills were involved. The loss of church buildings was a secondary matter, but this also was serious, and to rebuild the ruined houses of God he confidently appeals to English Churchmen. Seven churches were destroyed in the Mackay cyclone. The S.P.G. has opened a special fund, and subscriptions should be sent to Tufton Street through the parochial organisations as quickly as possible.

The Departmental Committee appointed by the Local Government Board which has been considering various aspects of after-war building construction has, by means of a special sub-committee, been prosecuting its inquiries in Scotland—Edinburgh and Glasgow having in turn been visited. At its next meetings evidence regarding the attitude of the authorities in Scotland will be taken, with the addition, possibly, of one or two witnesses from Aberdeen. So far the Committee has covered a wide field, and the whole question is intimately bound up with other after-war problems, including that of building by-laws, which also has been inquired into by a Departmental Committee.

It appears, from facts given in a short paper presented to the Chemical Society by Mr. J. S. S. Braine, and from the remarks made by several speakers in the discussion, that lead is acted on by green oak and by mortars and concrete. In the first case corrosion occurs with the formation of a white deposit, and in the second case—at any rate, if the concrete is made with a coke breeze—with a red deposit. The reaction appears to be obscure. The action of oak is very slow, but of mortars relatively rapid.

The churchwardens of St. Paul's, Acrefair, Raabon, have appointed a committee to consider the provision of a new church for the district.

Mr. Ernest Pawley, architect and surveyor, of Sevenoaks, has been appointed surveyor to the Sevenoaks Urban Council. There were 150 applicants.

The Sudbury Town Council have agreed to proceed with the work of enlarging the wash-house and erecting a mortuary at the isolation hospital in accordance with the plan submitted by the deputy surveyor.

The death has taken place at Lichfield, in his eighty-first year, of Mr. John Thorneloe, head of the firm of Messrs. John Thorneloe and Sons, builders and contractors, Lichfield. He had been in business in Lichfield for over half a century.

On Saturday week a party of the members of the Edinburgh Architectural Association visited the Hermitage of Braid, by kind permission of Lady Skelton. The present manor-house was built in 1789, and was probably designed by one of the brothers Adam, as the architectural details indicate. The honorary secretary gave a description of the estate and its various proprietors from the fourteenth century, which was supplemented by Miss Skelton and Dr. Ross.

PARLIAMENTARY NOTES.

THE HOUSING QUESTION.—On Thursday last, in the House of Commons, on the vote of £543,980 for the salaries and expenses of the Local Government Board, Mr. Hayes Fisher, the President, said the shortage of houses had necessarily increased enormously during the war, and as it was impossible to build during the war it was essential to have every detail prepared so as to start building immediately after the war. He believed that after the war the cost of building houses by private enterprise would be prohibitive so far as any profit could be derived from any rents which the working classes were likely to be able or willing to pay. He saw nothing to entice the private builder on to the ground which he had already left, unless substantial financial assistance, which the Government had promised the local authorities, were forthcoming. There was the alternative of the State doing as they had done at Woolwich—carrying out the building themselves. But the State was an expensive builder, and had not the requisite machinery to do the work on a large scale throughout the country. If they did attempt it, they would have to be prepared to enter into a sort of partnership with the local authorities, who knew the local needs, and who had so much control of roadmaking, drainage, communications, and other matters. That was the line on which they had been proceeding, and their circulars had been issued to the local authorities with these objects in view. Replies had been received from 900 local authorities, about two-thirds of the total indicating that they considered that 300,000 houses would be required. The authorities thus far were willing to provide more than 150,000 of these houses, and said that something, but not much, could be expected from private enterprise. Their later circular explained exactly what the partnership meant. The local authority was to select its land, though it need not acquire it at once if it obtained an option. It would then frame estimates of the probable cost of erecting houses and of the probable rents over a course of seven years. The Treasury agreed to find 75 per cent. of the estimated deficit, leaving 25 per cent. to be borne by the ratepayers. It was indicated that this 25 per cent. would not in the main cost more than a penny rate, but where in special circumstances it amounted to more than a penny rate the Treasury would meet the additional charge. This was, he believed, an exceedingly generous and tempting offer to the local authorities, which would also obtain many indirect advantages thereby. There was every reason to be encouraged by the way the local authorities had met the offer up to the present. They had been informed that the Department would expect that there should be not more than twelve houses to every acre in an urban district, and not more than eight to each acre in a rural district. The Royal Institute of British Architects had been brought into the scheme, and were offering valuable prizes for designs for working men's dwellings, and a variety of committees had been set up to deal with every phase of the question. The question as to what was going to be done with private builders was being carefully examined by a Committee, of which he was chairman. Public utility societies and private builders expected to make some modest profit, and therefore they could not expect the same favourable terms from the State as the local authorities. It might be quite consonant with the desire of the House of Commons for the State to lend money to public utility societies and private builders at the current rate, and they might also be granted facilities with regard to the procuring of timber and standardised materials.—An Hon. Member asked whom the houses to be built by local authorities were really intended for—the ordinary working classes or the superior artisans and other classes.—Mr. Hayes Fisher said it was intended to provide houses with a living room, a scullery, a parlour, and three bedrooms, but by whom they would be occupied he could not say.—Lord H. Cavendish-Bentinck condemned the Government's scheme in regard to housing on the ground that it would put a premium on delay by local authorities who wished to defer operations until there was less prospect of a loss on the work, that it made it perfectly impossible for the public utility societies to continue their operations, and that it would accentuate the tendency for each local authority to shuffle off its responsibilities on the shoulders of somebody else. He appealed to the Government to withdraw the scheme, the adoption of which would only lead to disappointment.—Mr. Rowntree also criticised the scheme, and expressed the view that forces

had been allowed to prevail at the Local Government Board which were contrary to the best desires of those who were working at the question. If the necessary 300,000 houses were to be provided in the first year after the war, the State itself would have to advance the capital. The scheme further would not provide that houses should be built in the districts where they were most required, or ensure speedy building. He hoped the President of the Local Government Board would reconsider his proposal.—Sir J. Boyton thought that private enterprise, which had hitherto provided 96 per cent. of the houses for the working classes, would, under the scheme of the Local Government Board, practically cease to exist.—Mr. S. Walsh, replying, said the question of how far they could encourage public utility societies and private enterprise was a proper matter for consideration. When they considered the magnitude of the housing problem at the conclusion of the war, the Local Government Board were driven to the conclusion that the first duty was to entrust the work to the public authorities. That, however, did not close the door to the necessity of using public utility societies and also private enterprise in the work. The Local Government Board was willing to obtain the help of all who were in a position to render it. He defended the terms offered to the local authorities, describing them as the most generous which had ever been submitted.—The vote was agreed to.

The King is lending some exhibits for the annual show of the Royal Amateur Art Society, which is to be held at 8, Carlton House Terrace from May 8 to 12. Reproductions of a view in Windsor Forest, painted by Queen Alexandra (the president of the society), will be on sale. The loan annexe will include paintings by Louisa Marchioness of Waterford.

A memorial exhibition of the sculpture and drawings of Henri Gaudier Brzeska, the young Franco-Polish sculptor and draughtsman, who was killed in action at Neuville St. Vaast in June, 1915, is to be held at the Leicester Galleries, Leicester Square, from May 11 onwards. The Victoria and Albert Museum and several French museums possess specimens of his work, and loans have been obtained from private collections.

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TENDERS.

***Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender: it adds to the value of the information.

AUCHTERLESS (ABERDEEN).—For mason, carpenter, slater, and plaster work at cottage, Oldyock. Auchterless, W. L. Duncan, Turriff, Architect. Accepted tenders:—

Mason, P. Christie, jun., Turriff; carpenter, P. Ewen, Turriff; slater, W. J. C. Eddie, Fyvie; plasterer, J. B. Dallas, Turriff; total, £294 1s.

CARDIFF.—For erection of cooling tower, etc., for the Electricity Committee. Accepted tenders:—Erection of cooling tower, Premier Cooling and Engineering Co., £3,219; motor-driven pumps, Rees Roturbo Manufacturing Co., Wolverhampton, £433.

LEEDS.—For supply and erection of economiser at Crown Point power station, for the Sub-Tramways Committee:—

Green, E., and Son, Wakefield.. £981 0 0
Accepted.

LONDON, E.—For fitting a new air-washing screen to the ventilating apparatus at the Culloden Street School, Poplar, for the London County Council:—

Bradley, G. and E., .. £133 0 0
Recommended for acceptance.

LONDON, S.E.—For alterations at the Nurses' Home, for the Lewisham Board of Guardians:—

Peyton, A. T. (accepted) .. £650 0 0

Mr. Francis William Petty, of Woodbridge, Crosshills, Kildwick, Yorks, retired architect, left net personality, £4,725; gross, £8,624.

LIST OF TENDERS OPEN.

BUILDINGS.

May 15.—Separate tenders are invited by the Metropolitan Asylums Board for (1) general repairs at the Grove Military Hospital, Tooting Grove, S.W.17; (2) cleaning and repairs at the Brook War Hospital, Shooter's Hill; S.E.18; (3) repairs to tar paving at the Brook War Hospital, Shooter's Hill; (4) external painting at Darenth Industrial Colony, Dartford, Kent, according to specifications prepared by T. Cooper, M.I.C.E., M.I.M.E., Acting Engineer-in-Chief.—Sir D. Mann, Clerk, the Office of the Board, Embankment, E.C.

ELECTRICAL.

May 13.—Tenders are invited by the Redditch Urban District Council under a P4 priority certificate for (1) one 2,000 kw. 3,000 k.v.a. turbo-alternator three-phase 3,800 volts, 50 periods, complete with surface condensing plant; (2) one cooling tower; (3) additional high-tension switch-gear to existing board; (4) one new water-tube boiler and accessories, and re-erecting existing boiler.—G. W. Hobson, Clerk to the Council, Redditch.

IRON AND STEEL

May 18.—For cast-iron pipes and special castings; cast and mild steel steam pipes and galvanised mild steel and wrought-iron pipes; and two boiler feed pumps and their erection, at Sheerness East pumping station.—For the Sheerness Urban District Council.—V. H. Stallon, Clerk.

PAINTING.

May 20.—Cleaning and painting the outside of the main block of the new infirmary, etc., Attleborough, Norfolk.—For the Guardians of Wayland Union.—F. Robinson, Clerk to the Guardians, Watton, Norfolk.

At the Liverpool Consistory Court a faculty was granted to the wardens of the parish church, Sefton, to erect a reredos, Holy Table, etc. The cost will amount to about £600.

The borough surveyor of King's Lynn has been instructed to make a selection of suitable lands belonging to the corporation up to 25 acres for providing sites for dwelling-houses.

Sir Alexander Meadows Rendel, of Westminster, S.W., senior partner in the firm of Messrs. Rendel, Palmer, and Tritton, consulting engineers, and well known for his work for Indian railways has left net personality £83,208; gross, £96,015.

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THE BUILDING NEWS

AND ENGINEERING JOURNAL.

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OUR ILLUSTRATIONS.

St. Chad's Wood, Kidderminster. Sir Ernest George, R.A., and Mr. Alfred B. Yeates, F.R.I.B.A., Architects.	
All Saints' School, Bloxham, Oxfordshire. New extensions, 1918. View and plan showing chapel,	

Strand, W.C.2

etc., erected from the designs of the late George Edmund Street, R.A. New boarding-house, swimming bath, and enlargement of headmaster's house. Sir Aston Webb, K.C.V.O., C.B., R.A., F.S.A., Architect.

First Prize Design B. England and Wales, S.W. Area. Housing of the Working Classes, England and Wales. Urban Districts. Plans and elevations, with sections. Messrs. Thornely and Rooke, Architects, Plymouth.

Currente Calamo.

A new permanent committee is being formed, which is to be known as the Architects' Assistants' Welfare Committee. The R.I.B.A. has elected Mr. A. G. R. Mackenzie as its representative. The A.A. has elected Mr. H. H. Wigglesworth, and the Society of Architects Mr. R. Goulbourn Lovell. As its title conveys, the committee will be concerned entirely with the welfare of architects' assistants, and it is therefore most important that members of the profession working in that capacity should be well represented on the committee. It is proposed that five architects' assistants should be elected to serve, and a meeting for this purpose is to be held at the Architectural Association, 35, Bedford Square, W.C.1, to-morrow, Thursday, May 16, at 5.30 p.m. It is hoped that all architects' assistants who are able to do so will attend the meeting, when the suggested activities of the committee will be fully explained. Any architects' assistant willing to serve is requested to send in his name before the meeting to the secretary, Mr. F. R. Yerbury, at 35, Bedford Square, W.C.1.

The regulations for 1918 for the British Institution Scholarships are published. The scholarships are of the value of £50, tenable for two years, and are paid quarterly. This year one scholarship is offered in painting, one in sculpture, one in architecture, and one in engraving. The examination will take place in November. Candidates for these scholarships must be not more than twenty-five years of age on November 1, 1918. Subject to this limitation of age, the scholarships in painting, sculpture, and engraving are open to all art students who have obtained a gold medal, a silver medal for work done from the life (i.e., a painting, a drawing, or a model from the nude), or a scholarship or money prize of the minimum value of £5 in any art school in the United Kingdom of Great Britain and Ireland in which the study of the nude living figure forms part of the ordinary course of study; and the scholarship in architecture to all art students who have obtained a gold medal or a scholarship or money prize of the minimum value of £5 in any art school

in the United Kingdom of Great Britain and Ireland. A "free" scholarship or studentship does not constitute a qualification to compete. Candidates for the Scholarship in Architecture:—1. A measured drawing of a portion of an existing building, on a half imperial sheet of paper, together with the actual sketches and dimensions from which the drawing was made. 2. A freehand drawing of a carved stone bracket or corbel, on a half imperial sheet of paper. 3. A design for a group of four cottages suitable for a village street, the two centre cottages to have a frontage of 21 ft. each, the frontage of the two corner cottages being left to the competitor. The accommodation to consist of a living room not less than 180 ft. super.; a scullery with gas-cooker, sink, and copper; larder, coals, and w.c., without back additions; 3 bedrooms and bathroom on the first floor; principal bedroom not less than 160 ft. super., and no bedroom less than 70 ft. super. Clear height of ground floor not less than 7 ft. 6 in., and the vertical walls of bedrooms not less than 5 ft. The drawings to consist of plans of the ground and first floor, one section showing staircase and two elevations, all to a scale of 8 ft. to the inch; also a perspective sketch, the nearest angle of the building being to quarter scale. All drawings and designs must be unframed, and their margins must not exceed 3 inches. 5. Candidates must send with their work a certificate, a form of which can be obtained on application to the trustees by letter only (with stamped and directed envelope enclosed), signed by the authorities of the school at which they are students, stating the name in full of the candidate, his or her age (see above, paragraph 2), and the qualification for competing (see above, paragraph 3); and further stating that the works have been done in the school and are wholly the competitor's own performance. This certificate must also be accompanied by a certificate of birth. All the competition works must be delivered unpacked, with the name and address of the candidate written distinctly on the back of each work, either by the competitors themselves, or through an agent, at the Royal Academy, Burlington Gardens entrance, on Wednesday, October 23, between 10 a.m. and 4.30 p.m. The address of the trustees is 19, York Buildings, Adelphi, W.C.

The lessee's covenant to insure the premises leased is a common and well-known clause. It usually provides for the amount to be covered, and frequently specifies the insurance office. In our long years of peace it was always sufficient, but in these days of war it is found not to cover fires caused by enemy air-raids. Owners of property have therefore had to insure themselves against this risk. But in the recent case of "Upjohn v. Hichens," an attempt was made by the plaintiff, as lessor, to throw upon the defendant, as lessee, the duty of insuring against this war risk of fire. The plaintiff had required the defendant to show that he had insured the premises against fire caused by enemy aircraft, which he refused to do. Then the lessor raised the issue of liability by suing the lessor for breach of covenant to insure. Mr. Justice Roche, who heard the case, held that the defendant's covenant only included the ordinary fire insurance under the usual policy, and decided in his favour. The plaintiff appealed, and, while Lords Justices Warrington and Scrutton confirmed this ruling, so that the appeal was dismissed, Lord Justice Pickford, who is a strong common lawyer, differed emphatically. He laid it down that the lessee's covenant to insure the premises against fire meant against any fire however caused, and he ruled that it was for the defendant to prove that he could not insure against all kinds of fires, including those brought about by enemy aircraft, which he had not done. He refused to agree that the usual policy was a good compliance with the lessee's covenant during these times of war risks. This judgment is, of course, overridden by those of the other two Lords Justices, but it may serve to show that there is some ground for further argument should this important case be taken to the House of Lords.

The summer exhibition of the International Society of Sculptors, Painters, and Gravers at the Grosvenor Gallery has a fair sprinkling of good pictures, the average of the rest being hardly a very high one. Mr. Robert Anning Bell's "Garden of the Sleeping Beauty" (1) is well placed, as it deserves. Mr. John S. Sargent has a good portrait of the Viscountess Acheson (42). Mr. Charles Shannon, who is so well represented at the Academy, has only one portrait here

(43). Mr. Orpen has two—one of Lient. Carroll Garstairs (3), the other of "Mona, Daughter of James Dunn, Esq." (11). Mr. William Strang sends four exhibits. One is a portrait (14). The others are "The Little Flora" (17), "The Mill Girl" (34), and "The Emigrants" (44). Sir John Lavery shows "The Wharf, Sutton Courtney" (31), and "Hazel and Gold" (32). Mr. Charles Rickett's "Don Juan and the Statue" (22) and "The Holy Woman and the Angel of the Resurrection" (24) are two equally well rendered if widely different subjects. Mr. A. McEvoy shows seven portraits, the best, perhaps, being that of the "Lord Provost of Edinburgh" (30) in khaki. Among others of interest are Mr. Henry F. W. Ganz's "Moórish Wedding" (41); "From a Cornish Cliff" (88), by Mr. Louis Sargent; and a clever water-colour of "Dixmude" (205), by Mr. A. St. John Partridge.

Mr. John Tweed, the well-known sculptor, in a letter to the *Times*, endorses the remark of that journal that "The public hardly looks at the sculpture in the Academy, or outside of it." The reason is, of course, as we ourselves have said many times, the sculptor's art education is badly organised. The student works in clay, and, with the aid of a clever teacher, arrives at a facile imitation of the model. He is not taught to think of his work as sculpture, and gains no practical knowledge of stone, with the result that when he enters a working studio he is of no real assistance. Most of the marble work exhibited at the Academy has been carved by foreign workmen. Headmasters of art schools have passed examinations, but do not know the requirements of the professional artist. The Academy has taken little interest in the art, and no work of any size can be shown in the two rooms allotted to it, nor can works in the round be exhibited so as to be seen from all points of view. The funds available under the Chantrey Bequest are more often allotted to painting than to sculpture, though it is clear that Chantrey, himself a sculptor, realising the expense of producing works in marble and bronze, desired to benefit workers in his own art. Few pieces of sculpture have been purchased which are worthy of a permanent exhibition. Commissions have deliberated on the subject, but the Academy ignores all interference, and annually continues to act along the same lines. "Let the sculptors unite," pleads Mr. Tweed, "in asking the Government for a proper exhibition gallery, and let them have some voice in art arrangements." After all, we do not know that the Academy treats sculpture much worse than it does architecture—certainly not as regards the limited accommodation it gives us. The truth is the Academy has long ceased to embrace "the Arts," and is now merely an Institute of Painters.

The decision of the United States to send us a really representative statue of Lincoln for London is most welcome. Ob-

viously it was an awkward matter to tell the great nation which offered the gift that the gift was worthy neither of the offer nor of acceptance. Fortunately, the matter was taken up very warmly in the States by leading men, who desired that we should have a good statue of a very great man, and we accordingly had nothing to do but to wait the event. We have already too many bad statues in London to want another, and the precincts of Westminster are worthy of the best that America could offer us. We may wait now for a happy ending to the controversy, and we shall welcome the coming to London of a fine effigy of the great president, and hope for its early installation in the best position available. Its inclusion among the most cherished memorials of the greatest figures in the world's history will be as gratifying to Englishmen as we trust it will be to all Americans.

THE ROYAL ACADEMY.

Taken as a whole, as we said a fortnight ago, the pictures at the Academy are a fairly respectable show. Their fewness is not altogether unwelcome, because the hanging has been easier, and most of them can be better seen, and there has been no need to fill odd corners with exhibits which puzzled one to discover why ever they got there at all. The one disappointing feature is the mediocrity of the war pictures, not one of which reaches even an average degree of excellence, and most of which are commonplace and lacking even the technique which might have, to some extent, justified their admission. Either we have just now no painters capable of seizing the dramatic incidents of battle, or, in this Titanic struggle, few such have been presented capable of inspiring the artist to an extent worthy of their reproduction. Some of them probably will be useful as pictorial records of the great struggle; and perhaps its very nature has made it impossible to reproduce such sentiment as attaches to war—or we still like to think so—or to embody the picturesque, which is altogether absent from the scenes of hideous desolation which are the baleful records of slaughter and destruction wrought by masses invisible during its perpetration.

Perhaps the best work this year is to be found among the portraits, albeit the principal masters of portraiture, such as Mr. Sargent, Mr. Orpen, and Mr. Brangwyn, show nothing. Their absence leaves Mr. Shannon an easy first. Mr. Shannon, moreover, is at his best this year. His full-length of "Lady Broughton" (137) is fully worthy of his reputation, while his perhaps less brilliant portrait of "Miss Bruce Ward" (170), to our thinking, is in other ways the most successful of its class he has ever done. Hardly, if less so, is his character study of "Jas. Buchanan, Esq., J.P." (226); while his "Girls Bathing" (204), an unusual departure into imaginative painting, will delight all lovers of beauty of colour and delicate treatment of flesh textures. His own portrait (98) hardly does himself justice; but artists are seldom their own best sitters, sometimes, perhaps, because their most characteristic attributes are least perceptible by themselves.

One of the best portraits shown is Mr. Fiddes Watt's "Lord Finlay of Nairn" (141). Among others, Mr. Melton Foster's "Madame Lucchesi Bacci" (90),

Mr. Hacker's "Sir Frank Short, R.A.," Mr. G. Spencer Watson's "Mary and Guido" (345), and Mr. Charles Sim's "Mrs. Hepburn" (111) manifest high quality. Sir J. Lavery shows five. That of Mr. Asquith, painted for the Reform Club, is certainly not the Asquith Prince Lichnowsky describes, or as his own more intimate friends and followers know him. But the ex-Premier has had many moments of perplexity since then, and possibly it was in one of these Sir John caught the worn-looking expression of the face, half in light and half in shade. Of the rest, "Mrs. St. John Graham" (145) is certainly the best. Sir E. J. Poynter's "Mrs. Temple Godman" (14), Sir Arthur S. Cope's "Lord Claud Hamilton, M.P." (39), Mr. Briton Riviere's "A. F. Buxton, Esq., C.C.C., 1916-17" (62), and Mr. Percy Bigland's burly "Lord William Gascoyne Cecil, Bishop of Exeter" (199), will not be passed unnoticed.

The most popular of the figure subjects (119) will, of course, be that which occupies the place of honour at the end of the big room, which is a very able piece of decoration, painted by Mr. Frank O. Salisbury to fill a panel in the Royal Exchange, and which represents the King and Queen and the Prince of Wales visiting the battle districts of France, attended by Sir Douglas Haig, General Smuts, and other officers. Possibly the separate portraits of the King and Queen by Mr. Salisbury which flank the big picture right and left are better than those in the group; but the latter is as successful an escape from the difficulties of State portraiture as we ever remember at the Academy.

The hit of the year, doubtless, is Mr. Walter Bayes' "The Under World" (243). It is a scene in the Elephant and Castle Tube Station, startlingly modern in treatment, and dominated by the impression which, somehow, seems to pervade us all, that this war and all appertaining to it is the work of some sort of ruthless, machine-like force before and beneath which humanity is impotent and its emotions paralysed. That the picture fascinates the crowd is evident. That the refugees represented are cleverly drawn is admitted by all. There are some who declare that the artist has, anyhow, succeeded in getting Mr. Nevinson at last on to the walls of Burlington House, for among the posters on the tube station the most legible are those announcing Mr. Nevinson's exhibition. "The Under World" has been purchased by the Committee of the Imperial War Museum.

Of the other figure subjects, Mr. Anning Bell's "Mary in the House of Elizabeth" (79), Mr. Charles Sim's "Piping Boy" (58), "The Adoration of the Three Kings" (122), by Mr. Glyn Philpot, and Mr. J. C. Dollman's "The Altar" (54), with its Greek window draped with the Union Jack, will not fail to find admirers. We are glad it is so well hung, for it is one of the most satisfactory pictures of its class shown.

There are not a few good landscapes. The best of all is doubtless Mr. Charles Sim's "Sussex Landscape" (34). Others of more than average charm are Mr. R. Vicat Cole's "The Passing of Autumn" (91), Sir David Murray's "Autumn's Surrender" (123), Mr. D. Y. Cameron's "The Waters of Lorne" (168), Mr. Lamorna Birch's "Carn Lanken, Cornwall" (288), Mr. R. W. Allan's "Home Waters" (329), Mr. Coutts Michie's "Evening in the Fen Country" (549), "Moonrise Before Sunset" (283), by Mr. Terriek Williams, and Mr. Arnesby Brown's "Evening" (233).

The naval pictures of the war are, on the whole, far better than those of the land forces. Mr. Bernard F. Gribble has three: "Hail, Columbia" (50) showing the first division of American destroyers to arrive in European waters; "The Doomed Raider" (194), and "A Destroyer Rescuing Shipwrecked Fishermen" (504). Mr. W. L. Wyllie sends "The Wounded 'Acasta'" cheering the Iron Duke in battle, May 31, 1916 (272); Mr. Charles Dixon "Allies" (189), showing the rescue of Captain Chave's boat of the "Alnwick Castle" by the French steamship "Venezia" on March 23, 1917; and Mr. Arthur J. W. Burgess "Sink Without Trace" (193).

We are glad to see Mr. W. E. Riley's accepted design for the London County Council's War Diploma (1307) is hung in the Architectural Room.

SCULPTURE.

There is little sculpture of a high order, and the war memorials are poor. The one work that is of real genius is Mr. Gilbert Bayes' "War Equestrian Statue" (1622), which is set up in the Quadrangle outside. It is a long time since the equal of the helmeted figure on the horse swathed with laurel has been seen at Burlington House. The conception as a whole is inspiring, and the dramatic postures of the horse and rider are most effective. We trust no fitting opportunity may be lacking to find a site for this noble conception, and in that case would venture to suggest that the present modelling of the chest and legs might be rendered more in harmony with the head and neck, with which they seem a little out of keeping.

Among the "War Memorials" Mr. Gilbert Bayes scores again with his model of a presentation bronze (1510), given by the machine-gun training section to Earl Brownlow. The figure of the soldier is very good. Mr. H. Pegram shows a very satisfactory bust of Nurse Cavell (1520), which is meant to adorn a memorial at Norwich. There is a reredos by Mr. W. Reynolds Stephens, "The Entombment" (1575), the figures of Christ and the two angels coming out well against the dark blue marble.

The best of the busts is Mr. A. Taft's "Old Odell" (1615). Others worth notice are Mr. A. Broadbent's, of the late Professor Robinson Ellis; Mr. Charles Wheeler's of the late Professor Edward Lantari; and the two by Mr. John Tweed of Sir Starr Jameson (1569) and General Smuts (1570).

There is also a finely done coloured relief, "The Fortune-Teller" (1592), by Mr. Aming Bell, the contrast of the two women—the dark cunning one and the fair dupe—being decoratively emphasised by the background.

Sir George Frampton's "The Knight of the Ounce" (1595), his only contribution, well merited a more prominent position than it occupies. The graceful armed figure is one of the most pleasing in the Lecture Room.

Sir W. Goscombe John's models for the statues of "Air" and "Water" (1457 and 1458) for the Liverpool Engine-room Heroes' Memorial have already been illustrated by us. Mr. Paul Montford sends three more figures for the group to be placed on the Kelvingrove Bridge, Glasgow, representing "Shipbuilding" (1452). Mr. Francis Derwent Wood is represented by his statue of "Lord Chatham," which is to be presented by American women living here to their native land as a memorial of peace between the kindred nations and an expression of their love for the land of their birth and that of their adoption.

THE METRIC SYSTEM IN ITS RELATION TO THE SURVEYOR'S PROFESSION.

By LIEUT. A. J. MARTIN, F.S.I.

(Continued from page 356.)

Title Maps.—These can follow their present course as, little by little, on redemptions and reappointments taking place, the Ordnance maps, which, as already pointed out, are to international scale will be substituted for them. When once the transfer is complete undoubtedly much source of dispute as regards the endowments of colleges, cathedrals, and churches will be removed. As many of us know, also, much of the work on which we are employed in this connection gives us much trouble and little profit.

Title Deeds.—As regards areas or lineal measurements mentioned in title-deeds the metric equivalents could be endorsed on any deed, or schedules could be attached to the deeds. Upon all changes through death or alienation only metric quantities would be allowed in estate duty valuations.

Manor Rolls.—Similarly manorial court rolls would have to be brought up to date, and all areas converted to metric equivalents and agreed to by the lord and tenant as occasion arose.

I once suggested a railway mile of 1,500 meters (a reduction of about 4 per cent.), the penny also being reduced in value 4 per cent. by making 1,000 farthings, instead of 960 farthings, to the sovereign. But a railway expert pointed out to me that railway stations were neither an even number of miles nor kilometres apart, but odd distances, and that the rates were in Great Britain worked out from station to station. But, he said, if a decimal system of measures and weights, and perhaps coinage also, were adopted, we could with calculating machines work the charges out quickly and to a nicety. I mention this as an example that it is not for us, in this discussion, to go outside questions cognate to our profession, this being a question for the railway companies to settle with the Government.

The Road Mile, however, would probably affect many surveyors. Stones or iron discs (painted a different colour to the background) would eventually mark out, for instance, kilometre distances. There would be no special urgency about this, but there would be this difference—places for fixing the new stones would be settled by scaling off the distances from our maps, which are already metric, and thus all the new stones would be equi-distant, which is more than one can say of our present milestones. In anyone doubts this, let him ask both the pedestrian and the garage proprietor, and also himself, when he pays the bill. The advantage of scaling off is that if one stone is placed wrongly it will not affect the remainder.

QUANTITY SURVEYORS' WORK.

Quantity surveyors could not fail to appreciate the great help which the interrelationship of measures and weights would be, quite apart from the decimal facilities in calculations. Calculating machines and slide-rules will take the place of much clerical labour, which apparently will be scarce in the future. There need be no appreciably long transition period for quantity surveyors as manufacturers would at once publish revised catalogues in metric terms. How simple price lists in the future would be may be seen by taking the quotations for cement as an example: it is now quoted by the ton, hundredweight, cental, yard, cubic foot, hundred, peck, chaldron, basket, bushel, bag, and so on.*

I trust quantity surveyors' work will form the subject of a special paper by one more competent to deal with it, but I should like here to refer to the rod of brickwork and planwork. The side of a square rod of brickwork is $5\frac{1}{2}$ yards, equal to 5.029 metres. If this were reduced to exactly 5 metres, or in the proportion of 5.029 to 5.000, the reduction of itself would not necessitate any alteration in the size of the brick, as a rod

is not necessarily composed of an exact number of bricks and joints. But it would be also necessary to express the brick in metric terms. The Royal Institute of British Architects has fixed the average size of a "standard" brick in inches as 9 by $4\frac{3}{4}$ by 2 11-16; the equivalent of this in centimetres is 22.73 by 11.05 by 6.78. These figures would probably be modified into $22\frac{3}{4}$ by 11 by $6\frac{3}{4}$, the slight differences being within the margin of error allowed. A metric brick with joints, I suggest, might be reckoned as 24 by 12 by 8 (centimetres) in the same way as the present brick and joints are often considered as being 9 by $4\frac{1}{2}$ by 3 (inches). A square rod of brickwork would be 25 square metres instead of 30 $\frac{1}{4}$ square feet.

Where house plans are now plotted to the scale of 1:96th (8 feet to 1 inch) they could in future be plotted to a scale of 1:100th. In this way $1\frac{1}{2}$ brickwork would on a plan be practically the same as now. But I only throw out these figures as hints.

Our Illustrations.

ST. CHAD'S, KIDDERMINSTER.

This drawing, hung this year at the Royal Academy, as mentioned in our review of the Architectural Gallery last week, is the only one in this room submitted by Messrs. Sir Ernest George, R.A., and Mr. Alfred B. Yeates on this occasion. The house is to be erected after the war, and it is thought best not to give the plans for that reason at present. The structure will be carried out in local sandstone.

BLOXHAM SCHOOL.

The original buildings were erected from the designs of the late George Edmund Street, R.A., and form a picturesque and attractive group of buildings for one of the Woodard Schools. Increased accommodation is urgently required, and it is proposed to build a block as shown in the view providing six class-rooms and accommodation for eighty additional boys. It is also proposed to rebuild the headmaster's house, providing in it for twenty-five boarders. It is also intended to build a swimming bath and make certain other alterations. The present master's house is an old building, which was incorporated by Mr. Street for the time being, but was always intended to be rebuilt, as it is inconvenient for its purpose. Sir Aston Webb, R.A., is the architect. The view reproduced is exhibited at the Royal Academy this year.

HOUSING OF THE WORKING CLASSES: ENGLAND AND WALES. FIRST PRIZE DESIGN FOR CLASS B RURAL AREAS, SOUTH-WESTERN AREA.

In our issue of May 1 we published Messrs. Thornely and Rooke's first prize plans for their Class A urban cottages and gave a description of their prize work, so that there is little to add to-day in reference to the two pages herewith given of the Class B £100 prize designs by the same architects. The marginal notes on the sheets furnish the essential particulars.

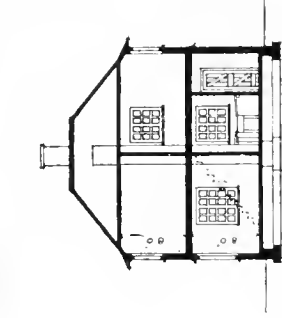
COMPETITIONS.

Welsh Housing and Development Association Cottage Design Competition.—In view of the explanations given by the promoters to the questions raised with them by the Society, and on their undertaking that the names of the professional and lay assessors, which have been given to the Council, will shortly be announced, the Society of Architects has removed its embargo on the competition on the understanding that Clause 21 of the conditions, to which the Council objects on principle, is not to form a precedent in normal times.

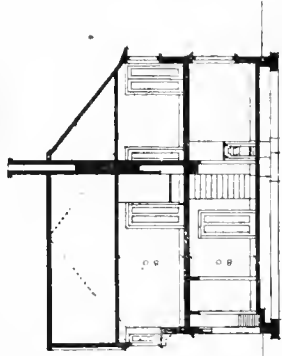
Hendon Council have had submitted to them a scheme for the erection by a Canadian syndicate of nearly 1,000 houses for the working classes at Edgware.

* This was written several years ago. The writer is unaware of the present practices.

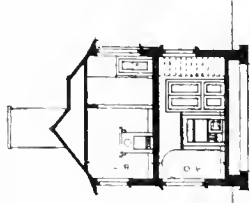
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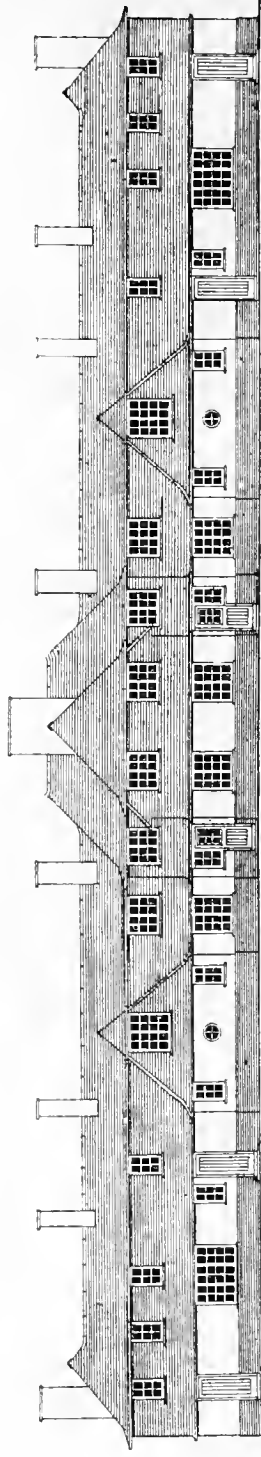
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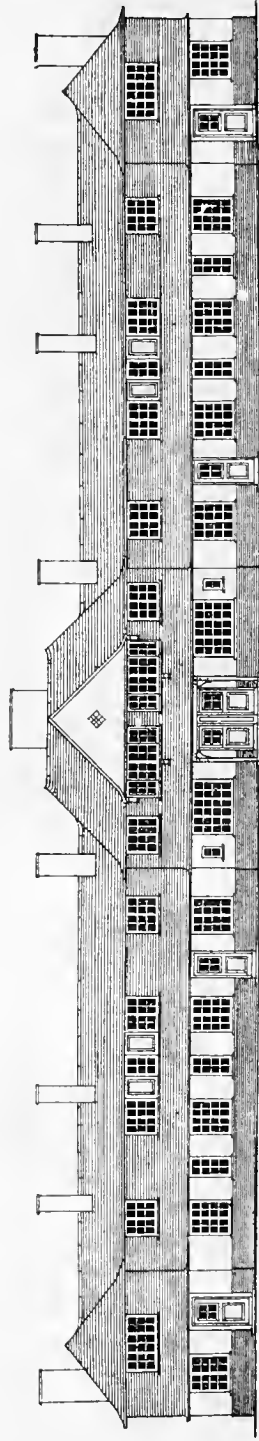
SECTION B.B.



SECTION C.C.



BACK ELEVATION

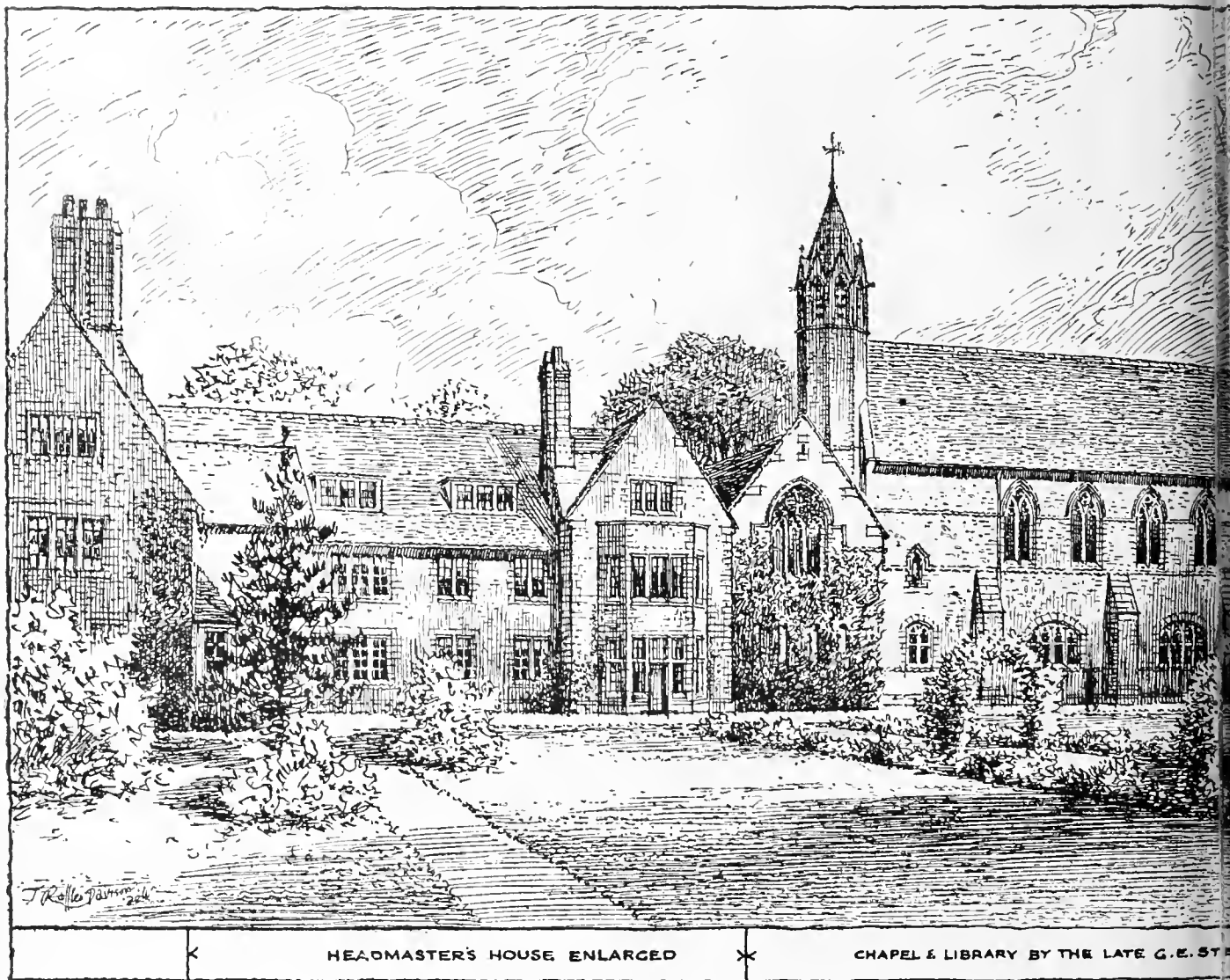


FRONT ELEVATION

H. L. THORNELY, F.R.I.B.A., and
J. P. ROOKE, F.R.A.S.

HOUSING OF THE WORKING CLASSES, ENGLAND AND WALES : S.W. AREA.
FIRST PRIZE, CLASS B, URBAN DISTRICTS.
Messrs. THORNELY and ROOKE, Architects.

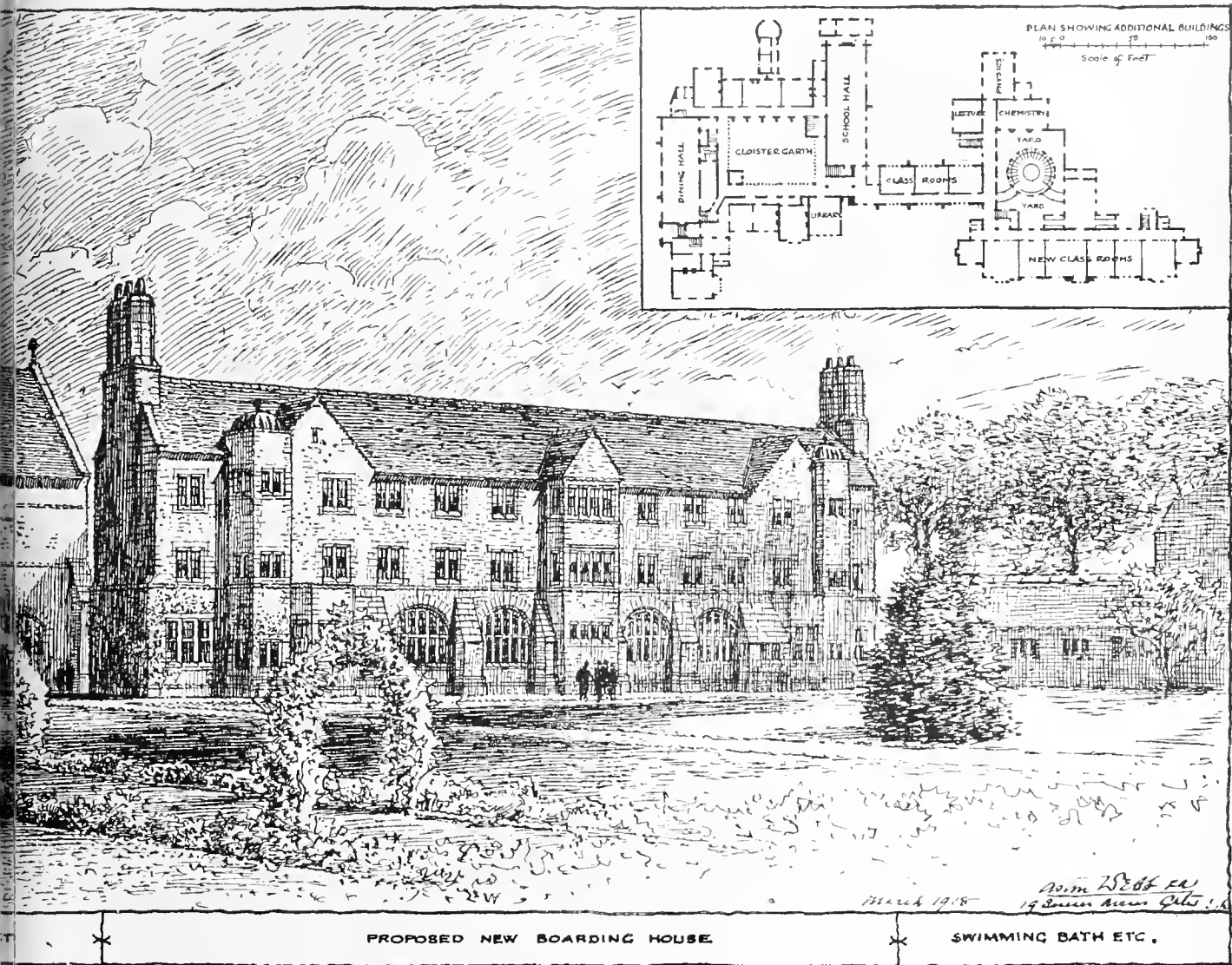




HEADMASTER'S HOUSE ENLARGED

CHAPEL & LIBRARY BY THE LATE G. E. ST

ALL SAINTS' SCHOOL, BLOXHAM, OXFORDSHIRE : NEW



ST CHADS WOOD
KIDDERMINSTER.
BY A.R.GOODWIN ESQ.
SIR ERNEST GEORGE, R.A.
AND ALFRED YEATES
ARCHITECTS.



MAY 15, 1918.



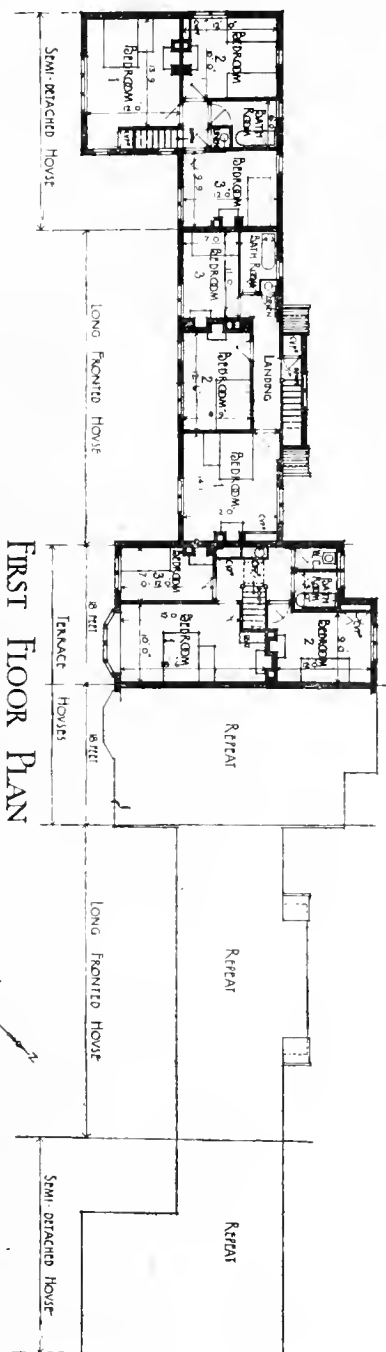
R.A., and Mr. ALFRED YEATES, F.R.I.B.A., Architects.

MATERIALS

GROUND FLOOR EXTERNAL WALLS OF HOLLOW CONCRETE BLOCKS ON BRICK PLINTH IN LOCATIONS WHERE CHEAPER THAN BRICK. IF BRICK IS ADOPTED THE WALLS TO HAVE A TWO INCH CAVITY. PARTY WALLS ETC. IN BRICKWORK. PARTITIONS OF 2½" CONCRETE SLABS. FIRST FLOOR EXTERNAL WALLS OF WOOD FRAMING AND VERTICAL SLATING. ALL ROOFS COVERED WITH SHALE SLATES. LOWER FLOORS OF CONCRETE WITH CEILING CENTER KITCHENS WITH FLOORS OF WOOD JOISTS AND BOARDING. WINDOWS WOOD CASEMENTS OPENING OUTWARDS.

B

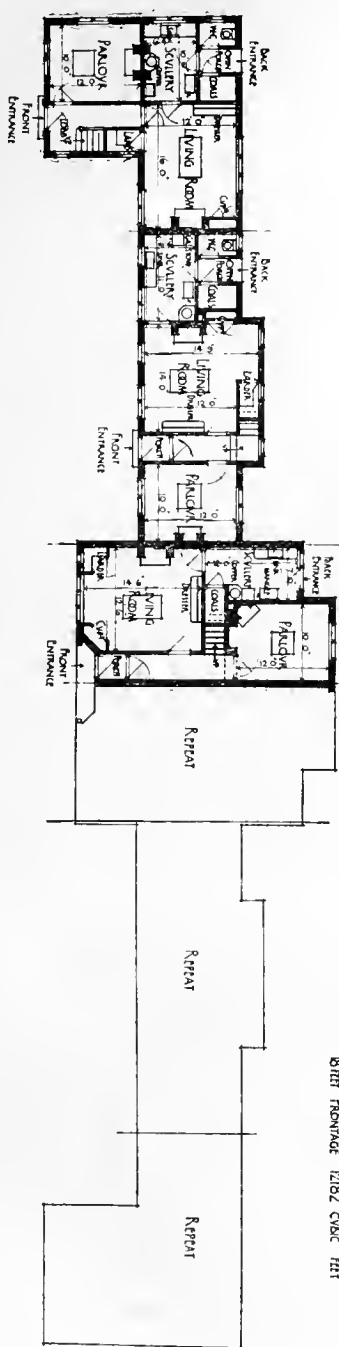
1.



FIRST FLOOR PLAN

Scale 8 feet to 1 inch

CUBIC CONTENTS OF COTTAGES
SEMI-DETACHED 11910 CUBIC FEET
LONG FRONTAGE 11297 CUBIC FEET
BOTH FRONTAGE 12182 CUBIC FEET



GROUND FLOOR PLAN

FIRST PREMIUM £100

H. L. THORNELEY & SONS
1 & 2, ROOPE
PT. 1000, N.Y.

HOUSING OF THE WORKING CLASSES, ENGLAND AND WALES: S.W. AREA.
FIRST PRIZE DESIGN, CLASS B, URBAN DISTRICTS.

Messrs. THORNELEY and ROOPE, Architects.

DOES ALKALI AFFECT CONCRETE?

The disintegration of concrete when exposed to strongly alkaline soils and waters in arid regions has been a subject of discussion by engineers and users of cement for the past ten or fifteen years. There are many concrete structures in these districts which do not appear to be affected by the salts, but there are some which show indications of being attacked.

There are many engineers who believe that well-fabricated concrete will not disintegrate when exposed to these alkali salts and that many cases of failure which have been reported have not been caused primarily by the alkali, but result from the use of poor aggregate, improper methods of fabrication, or other causes which resulted in a poor quality of concrete.

A laboratory investigation was started in 1908 by the technologic branch of the United States Geological Survey to determine the effect of alkali waters on cements and concretes. Briefly, these investigations showed that practically all cements are attacked by alkali waters upon exposure in the laboratory, and complete disintegration can be obtained under certain conditions. Similar investigations have been made by other laboratories with similar results.

ALKALI BLAMED FOR ALL FAILURES.

The United States Bureau of Standards has made a field survey of concrete structures exposed to alkali waters in several of the Western States. There is a tendency for the cement user to attribute to alkali all failures occurring in these districts, if any alkali is visible in the surrounding soil. Therefore, such failures as occur in the eastern part of the country, due to poor materials or improper methods of fabrication, are often excused in the irrigated districts as failures due to alkali.

It is practically impossible to analyse some of the failures which have occurred and state definitely the part played by the alkali salts, as a result of which it was deemed desirable to make field tests in which concrete of known composition and fabrication would be exposed in some of the worst known alkali districts in the West.

It was decided that the investigation should be started by exposing various cement mixtures in the form of drain tile, because of its economic importance. It was recognised that the results obtained with the tile tests would not predicate the behaviour of mass concrete, for the normal exposure of the latter is quite dissimilar from that of drain tile. Therefore, the investigation was expanded by the installation of generous-size blocks of concrete of known composition. The size of the blocks and the conditions under which they were placed will make the results of the investigation applicable to normal concrete construction in the field under similar conditions.

The blocks were placed so that the lower ends extended into the ground water. This was done in order to observe the effect of the mechanical force exerted by frost action and by the crystallisation of the alkali salts absorbed by capillarity into the pores of the concrete above the ground-water surface.

TILE TESTS.

The tile were made under contract at a commercial tile plant and under the supervision of a representative of the Bureau of Standards. Although it was anticipated that some of the tile of the leaner mixtures which are satisfactory in the humid regions would fail in these alkali soils, the programme was arranged to include tile made from the leanest to the richest commercial mixtures.

The tile were installed in operating drains on eight projects in what were thought to be the most concentrated alkali soils available in the West and in districts where there was practically no alkali for comparison.

One set of tile of each type also was stored in the open exposed to the atmosphere for reference and test.

The programme requires the removal of at least two tile of each type at each project every year for test and inspection. Sufficient tile were made and installed to continue the investigation ten years or longer if necessary.

EFFECT OF ALKALI ON MASS CONCRETE.

The following investigation was outlined by the advisory committee for the purpose of

determining the effect of alkali salts in the soil and ground water on concrete. Throughout the West many concrete structures are exposed to strongly alkaline soils and ground waters, and in some localities structures have failed or shown signs of disintegration, referred to previously. In order that actual field conditions might be duplicated, blocks of concrete 10 inches square and 2½ feet long were moulded, under the supervision of a representative of the Bureau of Standards, and installed on projects in soils where concrete structures have apparently been affected by alkali. The blocks were placed vertically with about one foot embedded in the ground and a portion exposed to the atmosphere. One series of blocks was moulded at a central point, where an excellent quality of aggregate was available, in order to secure a uniform and good quality of concrete. These blocks, called "A" specimens, were shipped to the various projects. Another set of blocks ("B" specimens) was moulded at each project and after curing was set in place, while a third set, "C," was moulded in place immediately exposed to alkali water. At each project the cement in use there was used, and the aggregates were of those at present available in commercial quantities near the site of construction on the projects.

Blocks were moulded of the Portland cement concrete of two different proportions, sand cement concrete and natural cement concrete. The test-tile was manufactured in sixteen different series varying in proportion, method of curing and mode of manufacture.

From the technologic paper, No. 95, the following conclusions in regard to the tests, are published:—

No definite conclusions can yet be drawn as to the ultimate resistance of concrete to the action of alkali in the soils and waters on the projects. However, the complete failures found at the Belle Fourche project, where local materials were used, together with the action which has commenced on the surfaces of many of the blocks on other projects, indicate that materials of good quality and proper workmanship are of greatest importance.

The surface action noted on blocks at several of the projects was not confined to those made of local materials, but was also apparent on some of the blocks made of selected aggregates ("A" series). Whether or not this surface action on the best-quality concrete blocks is progressive will be apparent after a longer period of exposure. Concrete which is to be placed in alkali soils should be made of selected and tested materials, so proportioned as to produce a dense concrete. As small an amount of mixing water should be used as will allow the mass to be properly placed. Unless these precautions are taken the resistance of the concrete to alkali action will be reduced.

DRAIN TILE.

The following conclusions may be drawn for the use of cement drain tile exposed to soils or waters containing alkali salts in quantities of 0.1 per cent. or more:—

1. The use of cement tile in soils containing alkali salts in large quantities is experimental.

2. Porus tile due to the use of lean mixtures or relatively dry consistencies are subject to disintegration.

3. Some dense tile are under certain conditions subject to surface disintegration.

4. Disintegration is manifested by physical disruption caused by the expansion resulting from the crystallisation of salts in the pores and by softening, resulting from chemical action of the solutions with the constituents of the cement.

5. While results obtained will not permit of a definite statement as to the relative effect of the various constituents of the salts, indications are that the greater the quantity of sulphate and magnesium present and the greater the total concentration of salts the greater will be the disintegrating effect.

6. Tile made by the process commonly used, which allows the removal of forms immediately after casting, are subject to disintegration where exposed to soils or waters containing one-tenth per cent. or more alkali salts similar in composition to those encountered in this investigation.

7. The hand-tamped tile of plastic consistency as made in this investigation are not

equal in quality to machine-made tile of the same mixture, and they do not resist alkali action as well.

8. Steam-cured tile show no greater resistance to alkali action than tile which are cured by systematic sprinkling with water.

9. Tile made of sand cement have less resistance to alkali action than tile made of Portland cement of the same proportions.

10. The tar coating as used is not effective in preventing the absorption of alkali salts from the soil.

11. The cement-grout coating is not effective in preventing the absorption of alkali salts from the soil.

12. No advantage is found in introducing ferrous sulphate into the cement mixture.

If cement drain tile are to be used in alkali soils or waters containing 0.1 per cent. or more of salts similar in composition to those encountered in this investigation, they should be made of good quality aggregate in proportions of not less than 1 part Portland cement to 3 parts aggregate. The consistency should preferably be quaking, which has proved the most resistant of all mixtures used. This is wetter than that generally used in commercial plants and will probably require the retention of the tile in the moulds for several hours, unless some means are found to hasten the hardening of the cement.

VIVISECTION OF A CONDEMNED BUILDING.

Subjecting the floor of a modern structure of concrete with steel reinforcement to the weight of a million and a quarter pounds of pig iron in order to determine the "point of destruction" was the remarkable test recently carried on in Chicago by Professor A. N. Talbot, of the University of Illinois.

The opportunity to make the test came about as the result of the wrecking of a large number of buildings to make way for Chicago's new Union Station. Among these buildings was a reinforced concrete structure erected in 1909, designed to carry heavy printing machinery, and after eight years of use still in perfect condition. Pebble aggregate was used in the concrete and its quality, from inspection of sample pieces broken from the floor before the test, seemed excellent, a fact which was later borne out by the stresses it withstood under the test load. The sixth floor of the building, which was the one chosen for the test, was a four-way flat slab construction designed for 250 lbs. live load. The test load was applied in increments of approximately 200 lbs. per square foot, until a weight of 910 lbs. per square foot had been reached, the time between the first and last loads covering a period of twelve days. Gauge lines on steel and on concrete and deflection points to the number of 200 were arranged. The gauge lines were selected with a view of getting information on the strains in the steel and concrete at critical places and to learn the action of the flat slab under heavy load. After each increment of pig iron had been put in place measurements were made on the gauge lines, and other measurements were taken each day.

It had been expected that the reinforcement was mild steel, but bars taken from the floor in different parts of the building gave a yield of 65,000 lbs. per square inch and an ultimate strength in the neighbourhood of 100,000 lbs., indicating high carbon steel. Judging from its performance, much of the concrete had, during the eight years' life of the building, reached its full ultimate strength. The maximum deformation was 1.1 inches.

The value of these tests consisted not merely in showing the strength of the floors, but also in showing how the stresses were distributed throughout the floor and what proportions of the load were taken by the various bar systems. The fact that the floor did not fail under a load that is almost four times as great as that which the city of Chicago permitted to be placed on it—250 lbs. per square foot—shows that the construction was exceptionally strong. Although incipient failure resulted, Professor Talbot estimated that a load of 1,500 lbs. per square foot would have been necessary to produce complete failure. It was Professor Talbot's opinion, however, that it would be of greater value to watch

the recovery of the floor after the removal of the pig iron than it would be to cause complete failure of the slab. It was for this reason that strain gauge readings were taken after the full load had been in place for some time and again after the pig iron had been entirely removed.

It is interesting to note that the highest stresses occurred around the column caps and not at the centre of the panel. The negative bending movement was responsible for the incipient failure of the concrete around the column caps.

The steel reinforcing rods were uncovered by means of bull points and hammers. The readings were taken with strain gauges which were graduated to read directly the stress corresponding to the deflections.

LEGAL INTELLIGENCE.

"D.O.R.A." AND SHEET LEAD.—At West Bromwich, last week, J. B. and S. Lees, Ltd., iron and steel founders, Albion Works, and the secretary of the company, Mr. G. J. Fillmore, were summoned at the instance of the Ministry of Munitions for offences under "D.O.R.A.," by using sheet lead for the repair of a roof of their premises, under a "B" certificate, and also for making a false declaration. It was stated that defendants gave an order to a local builder to repair the roof of the premises, under a "B" certificate, and this was carried out, 4 cwt. 5 lbs. of sheet lead being used, despite the fact that there was an order prohibiting its use except for certain purposes. Mr. Millward, who defended, in pleading guilty to a technical offence, said it had been done in ignorance. The sole proprietor of the firm, Major J. Lees, had not been at business for some time, having been at the war and been wounded, and Mr. Fillmore, the secretary, had been away ill. The Stipendiary said there appeared to be no intention to defraud, or to harm the nation in any way. It was a case of negligence in not properly construing the Order. For using sheet lead against the regulations the firm would be fined £5, £29 special costs, and £2 for making the false statement. The secretary would be fined £5 and £2 respectively.

A RENFREW GARDEN SUBURB.—In the King's Bench Division last week, Mr. Justice Bailhache heard an action by Thomas Duncanson, Montgomerie Quadrant, Glasgow, and Robert Duncanson, Falkland Mansions, Hyndland, against the executors of the will of the late William Macdonald Matthews, claiming £825 as an amount due under a guarantee of February 4, 1914. Counsel for the plaintiffs said the late Mr. Matthews was chairman of the Building and Estates Company, which had contracted with the Renfrew Garden Suburb Company to build for them seventy workmen's houses of a better type than was usually built in a garden suburb. They also contracted to do certain work at Colntraive and Tighna-bruaich. Messrs. T. and R. Duncanson were joiners, wrights, and contractors, and undertook to carry out certain work for the Estates and Building Company on those contracts. Mr. Matthews had guaranteed plaintiffs that the work they were doing for that company would be paid for. In the end of March, 1914, T. and R. Duncanson converted their business into a small limited liability company, in which they were to be principal partners and managing directors. He contended that plaintiffs' rights under the guarantee still continued, and under that guarantee claimed £825, the balance of the money due in respect of the contract work. Counsel for the defendants, Mr. Schiller, contended that the plaintiffs, on or about March 30, 1914, ceased to carry on business, and assigned their business to Messrs. Duncanson, Ltd. He submitted that plaintiffs thereby revoked the guarantee, and discharged Mr. Matthews from any further liability. His Lordship held that on the formation of the limited liability company by the Duncansons there had been a novation of contract, and that Mr. Matthews's liability to plaintiffs under the guarantee had long since disappeared. The action must therefore fail. Mr. Greer contended on his Lordship's judgment that if there was a novation, it did not affect the money due to T. and R. Duncanson before March 30, 1914, the date of the formation of the limited liability company. His Lordship decided against this contention.

A scheme is afoot to provide a better building as a reading-room and parish room for Maldon, Essex.

Correspondence.

NEW BUILDING WORKS, FORM "A."

To the Editor of THE BUILDING NEWS.

Sir,—On April 13 we, with others in the profession, received a letter and form, of which we enclose a copy for your perusal. At first we were not inclined to treat the matter seriously, but after making further inquiries we found that, in the interests of architects and clients alike, it could not be ignored.

Upon approaching clients who have notified us at varying times during the war to the effect that "they intended to build after the war," we find that most of those whose ideas as to proceeding have not materially altered with the progress of the war discredit the necessity for making the application, and generally are inclined to look upon the matter as a device for committing them to something which it is unnecessary if not impossible to settle at the present time. It appears strange that after more than three and a-half years of war, the most critical period should have been chosen to issue the notices, and still more so that May 6 (which allowed only three weeks) should have been given to complete the mass of work necessary for approaching clients and providing, even approximately, the quantities of the various materials which it is anticipated will be required in the buildings contemplated. Further, upon application, we find that the special form required for buildings "which will be erected under the supervision of, and for, a county or borough council, or an urban or rural district council (form B)," will not be available for some three weeks to come.

We venture to say that the returns made under these conditions will be valueless for their purpose, and therefore suggest that the Ministry be asked by the various architectural societies, and all who have received the letter, to make an announcement in the public Press to the effect that all persons who at present intend to proceed with building schemes after the war, should make the necessary application for the materials, etc., and allowing a reasonable time for so doing. This would result in many who have profited by the war and who have not even thought of consulting an architect, or even formulated any plans beyond an intention to spend some of their war profits in building, giving preliminary instructions forthwith, and thus serve the double purpose of furnishing the Ministry with a more or less sound basis to work upon, and also indirectly benefitting the architectural profession, which, without exception, has suffered more acutely than any other section of the community through the action of the Ministry of Munitions in virtually closing down 90 per cent. of the practices of the country some three years before it was considered necessary to even curtail any of the "luxury" trades.

The architect is obviously the last man likely to be in a position to furnish the statistics necessary until the unknown client has been publicly notified of the necessity for making an application in his own interests, and thus disclosing his after-war intentions. In the meantime, the official date for returning the information has passed, and we have only been able to provide particulars of about 20 per cent. of the buildings we know to be required, and we believe this is the general position with regard to these returns.

We shall be grateful if you would give this letter the prominence of your journal.—Yours faithfully,

GEORGE BAINES AND SON.

121, Victoria Street, S.W.1.

P.S.—We have forwarded a copy of this letter to the secretaries of the Royal Institute of British Architects, the Society of Architects, and the Master Builders' Association, in the hope that through joint action this matter may be re-opened and a reliable return thus obtained.—G. B. and S.

Mr. J. Higson, of Manchester, has been elected president of the Incorporated Institute of British Decorators, and Mr. M. Cowtan Cowtan, the retiring president, deputy-president.

Our Office Table.

The Council of the Royal Institute of British Architects having been invited by the Building Materials Supply Committee of the Ministry of Reconstruction to appoint representatives to express the views of the Institute on questions contained in a reference to the committee, respecting the supply of materials, etc., after the war, the president, Mr. Henry T. Hare, Mr. Paul Waterhouse, vice-president, and Mr. John W. Simpson, past vice-president, were appointed for the purpose. The representatives were requested to furnish the Committee in advance with a précis of the evidence proposed to be submitted, and this was done in a letter on May 7 expressing the opinion that the abolition of control is the true and only sound method whereby the building industry can be restored to healthy conditions. We will publish the letter, which reaches us just as we are going to press, next week.

The first meeting of the newly formed Imperial Association of Commerce was held last week in the London Commercial Sale Rooms, Mincing Lane, Sir Charles C. McLeod (provisional chairman) presiding. The association owes its inception to the conditions created by the war, and is intended to be a rallying centre where business men can secure protection through a powerful body to whose expression of thought both Parliament and the Government must pay heed. Mr. F. M. B. Fisher (late Minister for Marine and Trade, New Zealand), the director of the association, explaining the objects of the association, said that he had never known State control to be completely efficient, and it remained for the people of this country to devise a means whereby they could impart some intelligence to the controlling factors of the country. Large numbers of men who knew nothing about business had been employed by the Government, and they were telling business men what they ought to do to make business a success. It was an impossible and intolerable condition of affairs, and the association proposed to aid the Government in transacting the nation's business intelligently, and in developing British trade. If they could create an organisation with 10,000 members, and branches in all the chief cities, they would then be able to approach the Government and speak with a united voice on all questions of trade. We trust they will be successful. Much more of the present wanton and stupid interference with traders will end in national bankruptcy.

Port Sunlight is to have a war memorial of its own on a prominent site. At the Lyceum last Thursday a meeting was held at which Lord Leverhulme, explaining the scheme, said suggestions had been made for utility memorials, and it had been suggested in Parliament that the best memorial would be to build cottages. If they built cottages, who should decide who was to live in them? He felt that all the utility suggestions failed from every point of view. What they wanted was to put up a memorial which for all time would be their joy, their pride, and their pleasure. It was unanimously decided that a memorial approved by the committee be subscribed for and erected. Sir W. Goscombe John, R.A., has prepared a striking design, the details of which have still to be worked out. The main feature will be a cross, with a group of figures at the base in bronze, and of heroic size. They will represent a soldier defending women and children, a fallen comrade being at the soldier's side. On the base of the cross will be inscribed the names of those who have given their lives in the war.

At the annual dinner of the Artists' General Benevolent Institution at the Imperial Restaurant last Thursday night an original cheque drawn by Charles Dickens in 1862 in favour of the institution, presented by Mr. Albert Toft, was offered at auction for the benefit of the fund by Mr. W. Churcher. The first bid was £7 13s., the original value of the cheque, and it was eventually sold to Sir George Frampton for 45 guineas. Sir Aston

Webb announced that the collections during the year by the stewards and the donations received at the dinner amounted to £3,175.

The new buildings for the Prag-Lieben Motor-car Works are said to be the first examples in Austria of the use of flooring without joists for reinforced concrete construction. In this system the upper part of the piers supporting the floor are expanded as inverted cones and reinforced by a series of steel hoops or rings, gradually increasing in diameter, so that the top of each pier covers about one-third of the span. This plan of forming the floors is known as the "Turner" system in the United States. Steel reinforcing bars, crossing one another at right angles from pier to pier, longitudinally and transversely, and also diagonally, occupy the intermediate spaces between the concentric rings above the piers. The effects of expansion have been carefully studied and allowed for, as also the security of union between flooring and external walls of the building. The piers consist of circular cast-iron columns, surrounded with concrete, having vertical and spiral steel reinforcement; they are finished to an octagon in plan. The bases of the piers are extended in pyramidal outline, both for the sake of stiffness, and to enlarge the bearing area. As the floor-load is taken at 409 lbs. per sq. ft., the distance between the piers, from centre to centre, varies from 14.76 ft. to 16.4 ft.

Higgs and Hill, Limited, the London County Council's contractors for work to dangerous structures, have given notice of their intention to terminate their contract on May 29, 1918, as during the past year they have found it impossible to carry on without friction under the circumstances existing. The contractors state, however, that they are willing to continue after that date on the same percentage, i.e., 8 per cent. for establishment charges and 4½ per cent. profit upon certain specified items, subject to a contract form being acceptable to them, such contract to be for an indefinite period, but subject to one month's notice on either side. The main alterations to the existing form of contract required by Higgs and Hill, Limited, are: (1) Wages paid to be those current, i.e., either the agreed rates between the London Master Builders' Association and the Trade Unions or those awarded by any Government department, or as may be necessary under any unusual circumstances. (2) The wages sheets, receipted accounts, and books shall be accepted as conclusive evidence of cost incurred by them. (3) The whole of the time of the foreman who is solely in charge of dangerous structures work, whether "working" or "standing by," shall be charged up to this contract. (4) Simplification of the contract clauses generally and elimination of all penalties. The Council is advised that it is doubtful if any other contractor could be found who could be relied upon to execute this special work on more advantageous terms, and accepts the offer, provided that the rates paid for labour are agreed to by the architect before payment is made.

FOR

Olivers'**Seasoned****Hardwoods,**

APPLY TO—

WM. OLIVER & SONS, Ltd.,**120, Bunhill Row, London, E.C.****TENDERS.**

*Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender: it adds to the value of the information.

ABERDEEN.—For a wall in Sinclair Road, Aberdeen, for the Aberdeen Harbour Commissioners:—
Hall, G., Back Hilton Road,
Aberdeen £665 0 0
Recommended for acceptance.

BINGLEY.—For the labour and material required for the renewal of five beds of retorts, and the construction of a steel ventilating shaft, etc., at the gasworks, for the Bingley Urban District Council:—

Dempster, R. and J., Ltd., Manchester	£3,100 0 0
Suggden, F. C., and Co., Leeds	3,015 0 0
Gibbons Bros., Dudley	2,965 0 0
Sismay, W. H., and Co., Halifax	2,923 0 0
Standard Furnace and Setting Co., Halifax	2,894 0 0
Drakes, Ltd., Halifax*	2,860 0 0
Dempster, R., Ltd., Elland	2,696 0 0

* Accepted.

BURTON-UPON-TRENT.—For extension of the gasworks, for the corporation:—

Hodges and Son, Burton-upon-Trent, boiler-house, etc.; Waller, G., and Son, Ltd., Stroud, exhausting plant; Clapham Bros., Ltd., Keighley, condenser; Walker, C. and W., Ltd., Donnington, Livesey washer; Holmes, W. C., and Co., Ltd., Huddersfield, rotary washer-scrubber; Eastwood Swingle and Co., Ltd., Derby, turntable.

DUNDALK.—For repairs to sixty-eight cottages, for the Dundalk Rural District Council:—

Byrne, P., Louth	£530 12 0
McKenna, T., Derryfolane	402 13 6
Duffy, B.*	242 2 0

* Accepted.

EVESHAM.—For setting back a short length of wall in Magpie Lane, for the Evesham Town Council:—

Taylor, J., Cowl Street, Evesham (accepted).

NORTHAMPTON.—For painting the Midsummer Meadow bathing place, for the town council:—
Foster, W. H. £179 10 0
Recommended for acceptance.

NORTHAMPTON.—For whitewashing, etc., at Wellford Road and Harborough Road hospitals, for the town council:—

Adkins, W. J., and Co., £53 and £36 respectively (recommended for acceptance).

Mr. R. H. Dyer has been appointed as acting borough engineer and surveyor of Southend, at a salary of £500 per annum.

Second Lieut. W. S. Beaumont, Royal Engineers, of Messrs. J. W. Beaumont and Son, architects, Manchester, reported missing, is now officially reported to be a prisoner and wounded.

The Bristol City Council has drawn up a scheme for the creation, after the war, of five garden suburbs on the outskirts of the city, and has provisionally bought 168 acres of land. The corporation will be recommended to authorise the securing of further land, estimated in all at 582 acres.

LIST OF TENDERS OPEN.**BUILDINGS.**

June 29.—For additions, alterations, renovations, and repairs, etc., at various council schools, Trowbridge, during the summer vacation, 1918, in accordance with plans and specifications prepared by the county surveyor.—For the Wilts County Council Education Committee.—Plans and specifications and forms of tender will be obtainable after May 30 upon written application to Mr. J. G. Powell, County Surveyor, Trowbridge. Sealed tenders, County Surveyor's Office.

No Date.—For a reinforced concrete factory in Wiltshire at earliest opportunity, about 6,200 ft. super, five floors, and about 76 ft. high.—For particulars, Walter W. Shalum, Architect, Trowbridge, Wilts.

ENGINEERING.

May 22.—For construction at the Avonmouth Docks, Bristol, of a ferro-concrete pontoon for carrying a pneumatic grain elevator.—For the Docks Committee.—Secretary of the Docks Committee, Docks Office, 19, Queen Square, Bristol.

IRON AND STEEL.

May 18.—For cast-iron pipes and special castings; cast and mild steel steam pipes and galvanised mild steel and wrought-iron pipes; and two boiler feed pumps and their erection, at Sheerness East pumping station.—For the Sheerness Urban District Council.—V. H. Stallon, Clerk.

PAINTING.

May 20.—Cleaning and painting the outside of the main block of the new infirmary, etc., Attleborough, Norfolk.—For the Guardians of Wayland Union.—F. Robinson, Clerk to the Guardians, Watton, Norfolk.

Funds are being raised for the provision of permanent Y.M.C.A. premises on the Clare Hall site, Halifax. The estimated cost is £30,000.

Melrose Abbey, the mediaeval Scottish Border shrine, famous in history and romance, will shortly, it is understood, be offered to the nation by the Duke of Buccleuch.

While superintending the erection of the Lord Roberts Memorial Workshops at Nottingham last Friday, Mr. W. Crane, a builder and member of the City Council, fell 40 ft., and received severe injuries to his head.

After consulting Mr. H. Redfern, F.R.I.B.A., the Governors of Archbishop Abbot's Hospital, Guildford, have decided to spend £300 on the preservation of the north and east windows of the building, the glass in which is attributed to the brothers Van Linge, and is 297 years old.

The annual general meeting of the Surveyors' Institution to receive the report of the Council and the announcement of the result of the election of officers for the ensuing year will be held on Monday, May 27, at five o'clock. The prizes awarded to successful candidates in connection with the recent preliminary and professional examinations will be presented by the president.

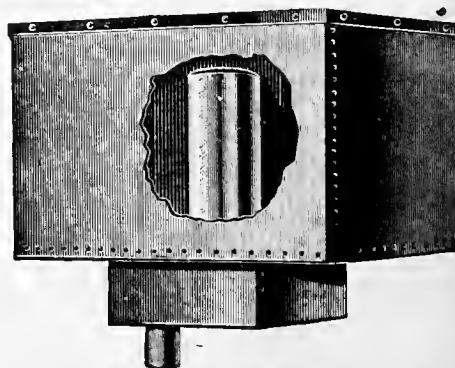
A churchyard cross erected at Abington, Northampton, to commemorate the late rector, the Rev. H. W. Maude Gunning, was dedicated on Ascension Day by the Rev. W. J. G. Bartlet, Vicar of St. John the Divine, Kennington. The cross is of local stone, some 20 feet high, and bears the Figure of Our Lord. The architect is Mr. Burke Downing, F.R.I.B.A., of Westminster.

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THE BUILDING NEWS

AND ENGINEERING JOURNAL.

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Court House, Broadway, Worcestershire. Mr. E. Guy Dawber, F.R.I.B.A., architect.
Housing of the Working Classes, England and

Strand, W.C.2

Wales, Home Counties Area, Urban Districts. First Prize Design for Class B, Mr. Alfred Cox, F.R.I.B.A., architect; and Second Prize Design for Class B, Mr. Courtenay Crickmer, F.R.I.B.A., Plans, Elevations, and Sections.
A New Type of Low-Cost Construction for Industrial Housing, Working Men's Homes, Messrs. Ballinger and Perrot, architects. View, Plan, and Details of the Methods of Building Employed.

Currente Calamo.

The Parliamentary Committee elected by the subscribers to invite a restricted number of selected competitive designs for the proposed Memorial to Fallen Members of Parliament and Officers of the House of Commons, in Westminster Hall, under the great window overlooking Palace Yard, met last Wednesday to make their selection from the three very different schemes submitted for their choice. The decision was in favour of Mr. Bertram Mackennal, A.R.A., M.V.O., the sculptor. All three of the proposals were illustrated and reviewed in our pages on May 1 last. The opinion we then expressed leaves nothing to add, except to express a regret that so eminent an opportunity of adding something worthy of the occasion has been lost. The addition of a structural monument in scale with the great historic national hall at Westminster will not be realised by the chosen design because the co-ordination of architectural character has failed to receive the attention which such a project should have received. This competition adds another to the list of failures mainly due to the lack of a well-considered scheme being decided on at the outset with knowledge and forethought, probably the result of the absence of expert advice, such as we have so often urged as obviously desirable in all specialised undertakings of a technical kind.

The Minister of Reconstruction, after consultation with the President of the Local Government Board, has appointed a Committee to consider whether, by the extension of existing facilities or otherwise, public credit may with advantage be utilised for the purpose of making advances, for the provision of houses for the working classes after the war, to persons and bodies other than local authorities; and whether it is desirable to establish, for the purpose of making such advances, State and municipal housing banks or other machinery, and, if so, on what lines and subject to what conditions. The Committee is constituted as follows:—The Right Hon. Henry Hobhouse (Chairman); Mr. R. Barrow, City Treasurer, Liverpool; Mr. J. A. E. Dickinson, I.S.O., Local Government Board; Mr. Thomas Goodwin, bank manager, Co-operative Wholesale Society; Sir Harry

Haward, Comptroller, London County Council; Mr. J. G. Hoad, F.S.I.; Mr. Robert H. Marsh, secretary, Association of Building Societies; Mr. Edmund H. Parker, managing director, Barclay's Bank; Mr. R. L. Reiss, Ministry of Reconstruction; and Mr. E. H. Strauss, M.P., Secretary, Mr. W. G. Wallace. Communication should be addressed to the Secretary, 2, Queen Anne's Gate Buildings, S.W.1. All very useful men, no doubt, but it might have suggested itself that an architect and builder might have been included.

Difference of opinion as to housing policy after the war was purely behind the question asked in the House last Thursday by Mr. Rowntree as to why the report of the Housing Panel, over which Lord Salisbury presides, has not been published. This Panel includes Mr. Rowntree and Mrs. Sidney Webb among its members—and was appointed by the Reconstruction Committee. We believe it takes an entirely different view as to the financing of the housing scheme from that in the official scheme of the Local Government Board. The Local Government Board proposes that local authorities who build houses immediately after the war—there is no compulsion—shall at the end of a term of years receive back 75 per cent. of their loss. Housing will be enormously expensive at the end of the war, so that at the end of, say, five years houses built at the war prices of material will be by that time worth considerably less than when they were built. Naturally, under these circumstances there will be no incentive to the local authorities to build houses at all. The Housing Panel recommends that the State should, as an emergency measure, provide the whole cost of building the 300,000 houses that are wanted, and should own the houses until the period when the cost of building has come down to a more normal level. The report of the Panel will, we believe, be issued shortly.

It is quite usual for a landlord to agree to put a house in good repair before the tenant signs a lease or agreement under which he will have to do the repairs. Sometimes the landlord does not perform his part of the contract: a lease is drawn up without reference to this promise, the tenant rashly takes possession, and, later on, complications arise. A very good

example of what may occur in this way is afforded by the recent case of "Henman v. Berliner," heard before Mr. Justice Sankey. The legal point was whether a simple contract made before the execution of a lease affects the construction of the covenants in that lease, although not actually embodied therein. By law a lease, which is a deed under seal, is a special contract, and so of higher value than a simple contract made by correspondence, as it was here. The facts were not disputed, and it appeared that owing to the landlord's neglect of the house, and especially of the drains, which he had agreed to put right, one of the tenant's family got diphtheria. Then the sanitary authorities came in, and under a magistrate's order the landlord had to do the repairs at a total cost of some £130. With a humorous appreciation of the ironical possibilities of our conveyancing law, the landlord now sued the tenant to recover this money. He based his claim upon the tenant's covenant to repair in the lease, and also upon the clause under which he was to pay "outgoings." As the judge put it in the end, in fact, the plaintiff was seeking to make the defendant pay for work which he had contracted to do. But it seems to have been a pretty legal problem all the same, for the judge took time to think it out technically, and delivered a considered judgment. He did, however, finally decide that the landlord had agreed to put the drains in order as a condition of the tenant taking the lease, and without which he would not have done so. He then found that the landlord had done no repairs at all to the drains, and that this caused them to be condemned. So he gave judgment for the defendant, the tenant, with costs. In the light of justice and common sense no other ruling seems possible, but those who are acquainted with our conveyancing law will know that the Court might even have held the lease to be the only binding deed which had superseded the landlord's contract to repair.

Colonel E. Royds, M.P. (Sleaford Division) has handed in the following new clause to the Finance Bill:—"Increment Value Duty, Undeveloped Land Duty, and Reversion Duty, imposed by Part I. of the Finance (1909-10) Act, 1910, shall not be charged, assessed, or collected after the passing of this Act." This will come up for consideration on the Committee stage,

almost immediately after Parliament assembles. It is therefore of immediate and pressing importance that a united endeavour should be made to secure without delay the fullest measure of support by all Members of Parliament. Those connected with the building and finance of working-class houses are practically of unanimous opinion that the original principal and a continuing cause of the present shortage of working-class houses in urban and semi-urban districts is the taxing provisions referred to, and that so long as these remain operative no adequate solution of the housing problem can be hoped for or expected. It is therefore of the utmost importance that all associations and committees be called together at once and formally adopt the resolution appended, also that copies of the resolution should then immediately be sent to the Prime Minister, Chancellor of the Exchequer, President of the Local Government Board, President of the Board of Trade, Minister of Reconstruction, and also to every Member of Parliament. Copy of resolution:—"The committee of this association, being convinced of the absolute necessity for amending legislation, earnestly request your support to the following new clause to the Finance Bill, put down by Colonel E. Royds, M.P. (Sleaford Division):—"Increment Value Duty, Undeveloped Land Duty, and Reversion Duty, imposed by Part I. of the Finance (1909-10) Act, 1910, shall not be charged, assessed, or collected after the passing of this Act."

Mr. E. S. Trehearne writes to the papers from 68, Lincoln's Inn Fields, W.C.2, commenting on the way in which builders are being treated by the Government. A client of his took a very valuable building site, in London, on which the land-tax had been re-assessed on the basis of its great value as a building site. Shortly after the firm began building the order was issued to stop operations. Notwithstanding this, the Government pressed for the land tax on the increased basis. The builders very naturally demurred, but offered to pay the tax on the value of the site for purposes for which it might be used. This was refused, and the authorities have now distrained for £133 13s. 10d. land tax. One Government Department prevents the site being used for the purpose on which the heavily increased tax was being assessed, and another Government Department distrains for the money! Has any other industry in the kingdom been so unfairly and tyrannically treated?

Fritz seems to be as badly off as we are for houses worse in some parts. According to the United States Department of Labour, which is about to publish an account taken from official German reports building has practically ceased in the great German cities. Only one-ninth as many houses were built in 1916 as in 1912, and the houses are much smaller. The total number of houses erected in the 45 largest cities in Germany was only 1,009 during 1916, and still fewer in 1917. In Berlin, Ham-

burg, and Frankfurt building has long since ceased. Only in the great war-industrial towns is there any construction of any kind. The war has so depleted the population of Berlin and Hamburg that they do not suffer, even though they have less and poorer accommodation than formerly. In Aix la Chapelle 1 house in 12 is idle; in Bremen, 1 in 15; in Berlin, 1 in 16; in Hamburg, which with its shipping and export trade was a rapidly expanding hive of industry before the war, over 6 per cent. of the houses are absolutely vacant; in Bonn, 4 per cent. are idle; in Frankfurt on the Main, 5.3 per cent. No new houses are being built and the old ones wear out, but the population is being depleted faster than the houses. But while these cities stagnate, workmen are packed in the great munition cities. Less than 1 per cent. of the dwellings are idle in eight of the cities where war industries thrive. Among these cities are Essen, Erfurt, Kiel, Lübeck, Stettin, Brandenburg, Königsberg, and Magdeburg. Conditions at Kiel are particularly deplorable. Only 1 house in 500 is vacant and the number of uninhabitable places is normally higher than this.

A NEW TYPE OF LOW-COST INDUSTRIAL HOUSING.

WITH ILLUSTRATIONS.

Mr. E. G. Perrot, of the firm of Balingier and Perrot, architects, of New York City and Philadelphia, has designed a new system of construction, which is styled the concrete stud and cement stucco construction, which it is claimed makes the erection of working-class houses of a permanent and durable character possible in record-breaking time.

By his method, as described by a writer in the *American Architect*, to which we are indebted for the illustrations and particulars, reinforced concrete is substituted for brick or masonry—not of the poured monolithic system, nor of pre-cast concrete, but by the application of concrete either by hand or by the cement gun.

After the cellar has been excavated a stone or concrete foundation is built. If of concrete, it is poured from a travelling mixer, with loader, into wooden forms, made in panels, so as to be easily removable. The first floor wood joists are then set in place on the foundation wall. On these a wooden frame, consisting of studs, joists, and rafters, is erected in the usual manner adopted in building the skeleton of a wood-framed house. Every fourth stud is doubled, allowing a three-inch by four-inch space between, which is filled with concrete to form a concrete stud. At the second floor and roof levels a ledger board, with bottom attached, is placed over the studs, and so arranged that, when filled with concrete, they form beams which, with the vertical concrete studs, make a homogeneous concrete frame. The concrete studs, when completed, are continuous from foundation to top. On top of the lower ledger board the second-floor joists are set, then the second-story studs, and so on. When this frame is completed, including the party wall, and the roof is on, heavy waterproof paper is nailed to the outside of the exterior wall studs, leaving the space between the double studs open to receive the concrete. Over the waterproof paper the metal lath or concrete reinforcement is stretched. The concrete studs are reinforced with steel rods fastened to the metal lath. The ledger boards have a bottom wood piece or form, so that when filled with concrete they act as beams to carry the floor joists and roof rafters. The wood studs act in

the dual capacity of supporters of the cement stucco while it is being applied and as furring strips on the finished building.

Then a thick concrete coating, one and a-half to two inches thick, is given to the exterior by means of the cement gun filling the space between the doubled studs to form the continuous vertical stud. If the cement gun is not available the continuous vertical studs and ledger boards can be poured with concrete and the exterior metal lath coated with cement by hand. The concrete is 33 per cent. denser than ordinary poured concrete and about twice as strong. Colour effects can be produced by adding mortar-stain to the concrete when mixing it.

The chief points urged in favour of the method described are:—First, after the framework of any number of houses is erected the cement can be applied without interruption, instead of stuccoing part of the work, and shifting the labourers and material to another portion thereof while the first is being completed, and then having to shift them back again. Secondly, the numerous cracks common to all other methods of concrete construction are eliminated, because the vertical concrete studs carry all the load, so that there is no shrinkage or settlement to contend with in this monolithic structure. Party walls merely have a skim coat of white plaster applied to the cement for a finish, which makes a saving on this wall alone of at least twopence per square foot over the usual plastered surface.

The fundamental idea involved is to produce a cheap, semi-fireproof house, i.e., one which may be built with the same rapidity and cost as an all-wood structure. If it is desired to increase the fire-resisting qualities of the building, metal lath, instead of wood lath, may be used on interior surfaces which are to be plastered.

The roof, whether flat or pitched, lends itself very readily to concrete construction. The concrete may be applied in the same manner as before described for the vertical walls, but the expensiveness of the concrete roof construction necessary to carry the roof itself makes it prohibitive for the type of building in which low cost is a prime essential. For the pitched roof there are other good, economical, and easily obtainable fire-resisting materials, including asbestos and asphalted-felt shingles, and built-up roofings of felt, tar, and gravel.

If, as is claimed, a house can be thus completely concreted in two and one-half days the possibilities in rapidity of construction by this process are apparent.

THE R.I.B.A. AND THE MINISTRY OF RECONSTRUCTION.

The following is the text of the letter which reached us last week as we were going to press, and of which we were then only able to give the gist. We need hardly say we endorse every word of it.

May 7, 1918.

Captain B. M. Cutbush, Secretary,
Ministry of Reconstruction, Building
Materials Supply Committee.

Sir,—With reference to your letter of March 16, addressed to the secretary,

We beg to inform you that we have been appointed by the Council of the Royal Institute of British Architects to represent to your Committee their views as to clauses 3 and 4 of the Reference from the Ministry of Reconstruction. In accordance, therefore, with your request, we have now the honour to append a summary of the views we are instructed to entrust to your Committee upon the subjects covered by the clauses referred to.

For greater clearness we have sub-divided the paragraphs of the Reference under headings, as follows:—

Paragraph 3.—A. "In the event of the supply of material or labour being insufficient to fulfil the total building demand."

B. "To consider the principles and method by which the priority of various claims should be settled."

C. "And to report what steps are necessary to ensure that the manufacture of the materials, so far as they are at present inadequate, shall be extended in time to secure sufficient quantities for use when required on the cessation of hostilities."

D. "And to recommend what steps should be taken during the war to facilitate a prompt commencement of building work at that time."

Paragraph 4.—E. "Generally, to consider and report upon any conditions affecting the building trades which tend to cause unduly high prices."

F. "And to make recommendations in regard to any measure of control which it may be desirable to exercise over the purchase, production, transport, or distribution of material."

SUMMARY OF VIEWS TO BE SUBMITTED.

Paragraph 3.—A. In view of the long period during which building operations, other than those directed to the furtherance of war, have been practically suspended, the dislocation of manufactures and shipping, and the shortage of labour, we think it may be assumed as certain that the supply of materials will be insufficient to meet all demands at the termination of the war.

B. One claim only should be considered as entitled to priority, viz., that of works to be executed by, or on behalf of, the Government for immediately urgent national needs. All other claims should be regarded as equal; in other words, markets should be left free and unfettered by restrictions, so that production may be stimulated to its utmost, and prices thereby reduced to a normal level at the earliest possible moment.

C. An increased output of material during the war depends almost wholly upon the amount of labour available for the purpose. To deal with this question would involve consideration of the relative allocation of man-power to military and civil necessities; and it does not appear to us that we can usefully offer suggestions upon such a matter.

D. For the purpose of the urgent Government works referred to under heading B, we recommend that material should be accumulated and secured in advance, by immediate purchase of available stocks, by such ear-marking as may be practicable both at home and abroad, and by expediting present production so far as that may be done without affecting the conduct of the war.

For all other purposes, the building trade should be encouraged to proceed with the organisation on a secure basis of the immense future operations which it will be called upon to undertake. To this end an authoritative assurance should be given at once that the control of Government departments, whether as regards the supply of material or the erection of buildings, will cease at the termination of hostilities. Without such an assurance, all the plans of private enterprise can be but tentative and uncertain. It is necessary that security should be assured for their projects before these can be usefully formulated.

Paragraph 4.—E. The chief cause of unduly high prices is the present system of payment for time occupied instead of for results obtained. This system tends both to restrict output and to diminish the purchasing value of wages paid. There should be no limit to the income of a workman except that of his capacity to earn it.

F. We believe that the abolition of control is the true and only sound method whereby markets in material, and the building industry generally, can be restored to healthy conditions. We endorse the opinion of Lord Inchcape (*Times*, April 22 last) that "the less Government officials or quasi-Government officials are permitted to interfere with trade the better will it be for the country and for its financial stability. . . . There is an idea in some quarters that the Government, through officials, could with advantage to the community, carry on the business of the country. No more fatal error could be conceived. No greater delusion ever took possession of the human mind."

"The day of peace," writes one of the great London building contractors, "should also be the day of liberation for British industry from the fetters to which it has patriotically submitted during the time of national danger."—We entirely agree, and have the honour to be, Sir, your obedient servants.

Henry T. Hare, President, R.I.B.A.

Paul Waterhouse, Vice-President, R.I.B.A.

John W. Simpson, Past Vice-President, R.I.B.A.

GOVERNMENT WASTE OF BRITISH WOOD.

Professor Groom, reading a paper in the hall of the Society of Arts last Wednesday, said that though we had in the United Kingdom timber eminently suited for use in aeroplane building, we were not aware of it at the beginning of the war, while Germany knew of it, and instantly made use of it. Last year tests showed that in the South of England and the Highlands of Scotland the Scotch pine could yield slowly grown timber equal to the highest demands ever made on wood, namely use in vital parts of aeroplanes. Germans, having made thousands of tests on the structure of Scotch pine growing in various of her forests, was able instantly to secure rich supplies of wood of exactly the quality required for aeroplanes. But in this country when the war began we did not know the mechanical values of any kind of timber whatsoever grown in the United Kingdom. Dealing with the fireproofing of woods, the speaker said investigations had rendered it possible to such an extent that thin 3-ply wood could be made to resist for minutes, or even hours, a temperature of 3,000 degrees Fahrenheit. The process of fireproofing was not, however, cheap.

Mr. Howard said that the amount wasted on wood by the Government was absolutely criminal. They had issued an advertisement for Oregon pine at 8s. per cubic foot, when its pre-war and proper price was 1s. 6d. per cubic foot. But why did they use this wood when the most suitable was one that they would not allow the public to pay more than 10d. per cubic foot for? In another case, was anything more absurd than that they should insist on first Archangel wood when larch was ideal for the purpose?

Professor Groom said that woods of inferior quality could be improved by changing their colours, and thereby improving their decorative value. Except production of fumed oak by ammonia vapour this branch of industry has been neglected. Grey sycamore was obtained from white sycamore, and yet for years white sycamore was exported from England to Paris or Hamburg for treatment and reimported at a price fifty times the cost of the process. He knew of one wood-using establishment in which the normal annual loss or wastage of timber represented £60,000.

OBITUARY.

Mr. George Alexander Wright, architect, died last month at his home in San Francisco after a short illness. He was senior member of the firm of Wright and Rushford, architects, of San Francisco. Mr. Wright was born in England in 1852, and practised his profession in that country until 1891, when he went to America. In 1875-6 he accompanied the late King Edward, then Prince of Wales, on his Indian tour, acting in a secretarial capacity. Since his arrival in America his activities have been very extensive. He was one of the most energetic exponents of the Quantity System, and was known to the profession through his writings on that and allied subjects.

We record with sincere regret the death of Mr. Alexander Wallace Rimington, A.R.E., R.B.A., of 11a, Pembroke Crescent, W., which occurred on May 14 at Selsley, Gloucestershire, aged sixty-four. Born in London, and a descendant of William de Rimington, of Rimington, Yorks, in the thirteenth century, he studied art in London and Paris, and was a frequent exhibitor at the Royal Academy, the Royal Society of Painter Etchers, the Royal Society of British Artists, and occasionally at the Paris Salon, the New Gallery, and various international exhibitions. Many of his works have been reproduced in our own pages, and we have otherwise been indebted to him for other ever-ready and kindly help. He was Professor of Art at Queen's College, London, and his other activities were many. He was the inventor of the Colour Organ, an instrument for producing colour music and other forms of mobile colour. His book on "Architecture Seen Through the Painter's Glasses," published in 1891, had a wide circulation. He married Charlotte, the daughter of Mr. G. A. Haig.

Our Illustrations.

"WAR," AN EQUESTRIAN STATUE IN BRONZE FOR THE NATIONAL ART GALLERY, SYDNEY, N.S.W.

This statue, now in the courtyard of Burlington House, forms one of the leading exhibits at the Royal Academy this year. It is to be executed in bronze. Mr. Gilbert Bayes, of Boundary Road, St. John's Wood, N.W., is the sculptor. "The Homage of War" is the most masterly piece of sculpture shown in the exhibition owing to its boldness, fine modelling and breadth of treatment, combined with simplicity of line and dignity of design. It occupies the prominent position in the forecourt where Watt's splendid "Physical Energy" was shown some years ago, and which now forms part of the Rhodes monument in South Africa, its duplicate being at Eaton Hall, Cheshire.

THE COURT HOUSE BROADWAY, WORCESTERSHIRE.

The photograph herewith reproduced is new at the Royal Academy. The house is in the Cotswolds and was built some few years ago, so that the surroundings have matured with creepers and well-grown gardens, hardly realised in the view as actually existing. The architectural treatment is in accord with the domestic work of the district, and the interior finishings harmonise with the style of the exterior. The architect is Mr. E. Guy Dawber, F.R.I.B.A., whose many works in this Worcestershire neighbourhood are well known.

HOUSING OF THE WORKING CLASSES, ENGLAND AND WALES, HOME COUNTIES AREA: FIRST PRIZE DESIGN, CLASS B.

Mr. Alfred Cox, F.R.I.B.A. (Messrs. Williams and Cox), Henrietta Street, Covent Garden, won the first prize of £100 with this design for Urban Districts in the London area and Home Counties Competition. The plans here reproduced show some alterations on the original, based on further suggestions. These more particularly include a rearrangement of the scullery, bath, coal place, etc., and are improvements in detail. The elevations are unchanged save a trifle in the rear, and this does not materially affect the merits of the scheme. Purple bricks of grey tone with red dressings for the walls and hand-made tiles for the roofing. Sash windows are intended. Other materials could be employed, and casement windows substituted with leaded lights. The locality and other considerations would naturally suggest modifications. The note on the drawing supply further information and add to the interest of the sheet.

HOUSING OF THE WORKING CLASSES, ENGLAND AND WALES, HOME COUNTIES AREA: SECOND PRIZE CLASS B.

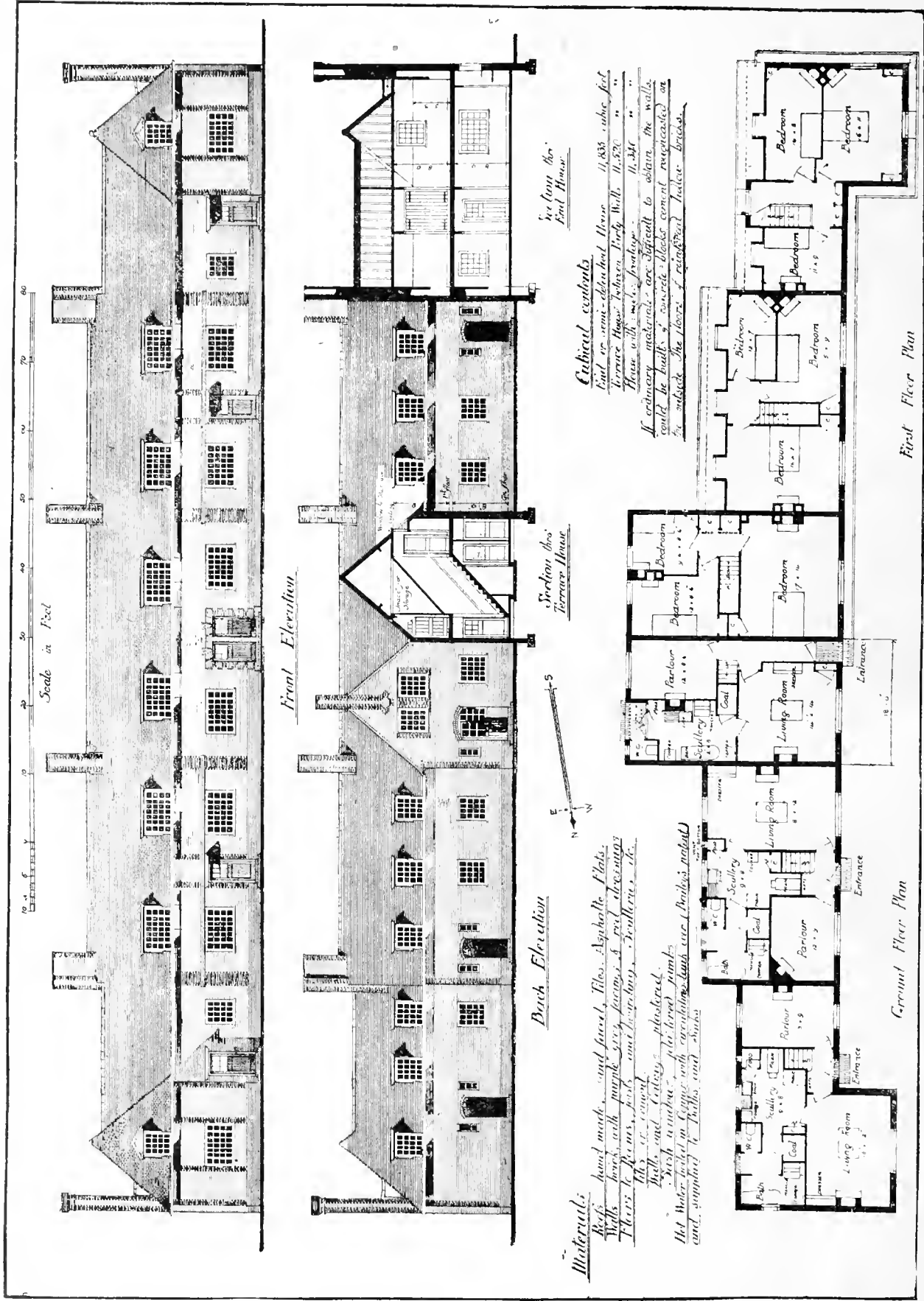
Mr. Courtenay Crickmer, F.R.I.B.A., of Lincoln's Inn Fields, the architect of this design, also gained the first prize of £100 for each of his plans under Classes A and C for Urban Districts in the competition for Home Counties Districts. Both these designs appeared in our issue for May 8 with a general descriptive reference to them, which applies also to the scheme for which he was awarded the second prize of £50 in Class B, now illustrated. The notes on the drawing furnish all other needful information, the sheet being reproduced from the competition details without alteration. Some trifling modifications have since been made at the request of the judges, we understand. Our review of this competition, the only one published, appeared in *THE BUILDING NEWS* for March 27 last.

A NEW TYPE OF LOW COST INDUSTRIAL HOUSING.

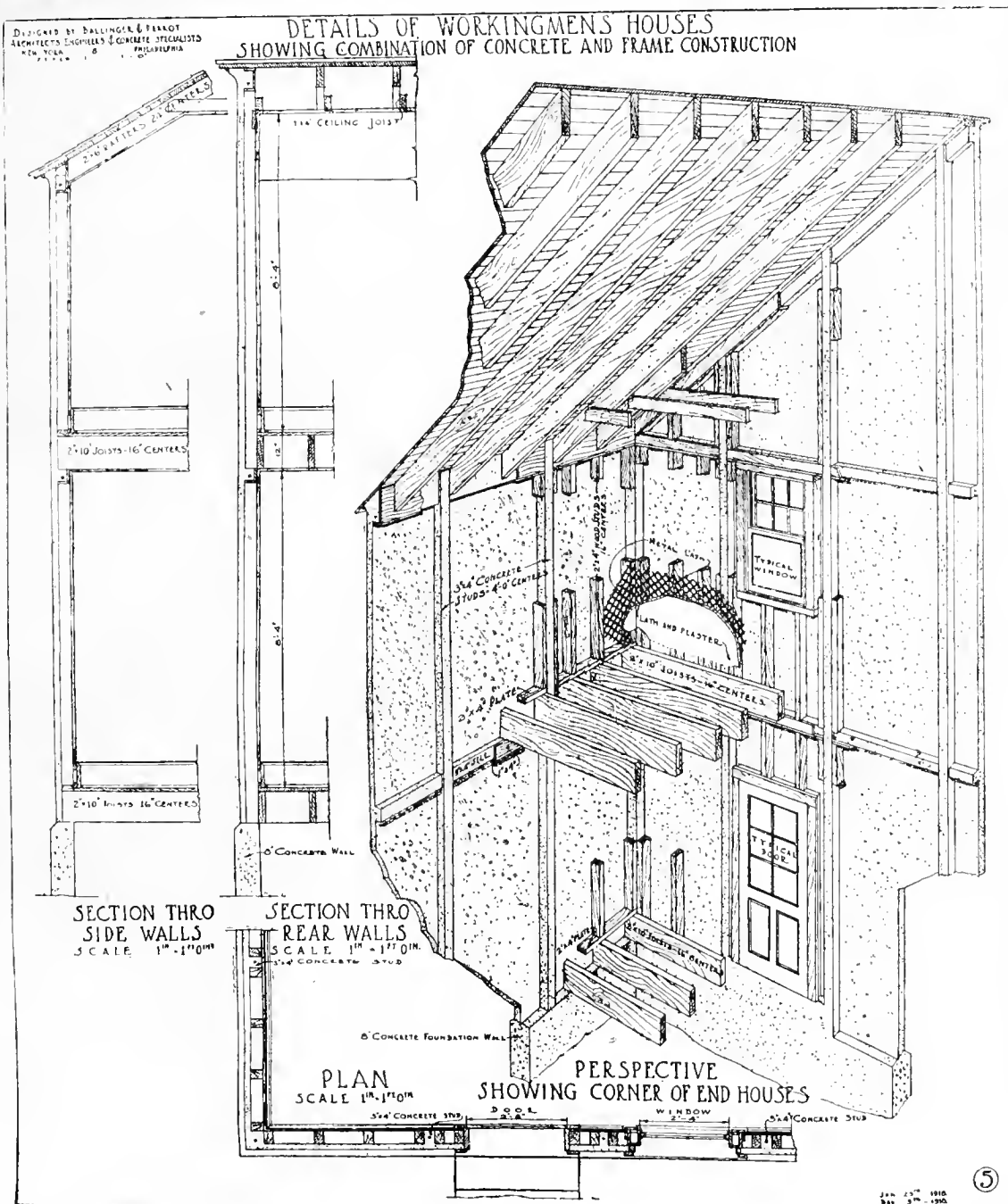
For a description of these illustrations of a new American type of industrial housing see our first article this week.

It is notified that the basis price of wire nails imported under licence issued by the Department of Import Restrictions has, on the advice of the Advisory Committee on Hardware, been raised from 56s. to 65s. per cwt.



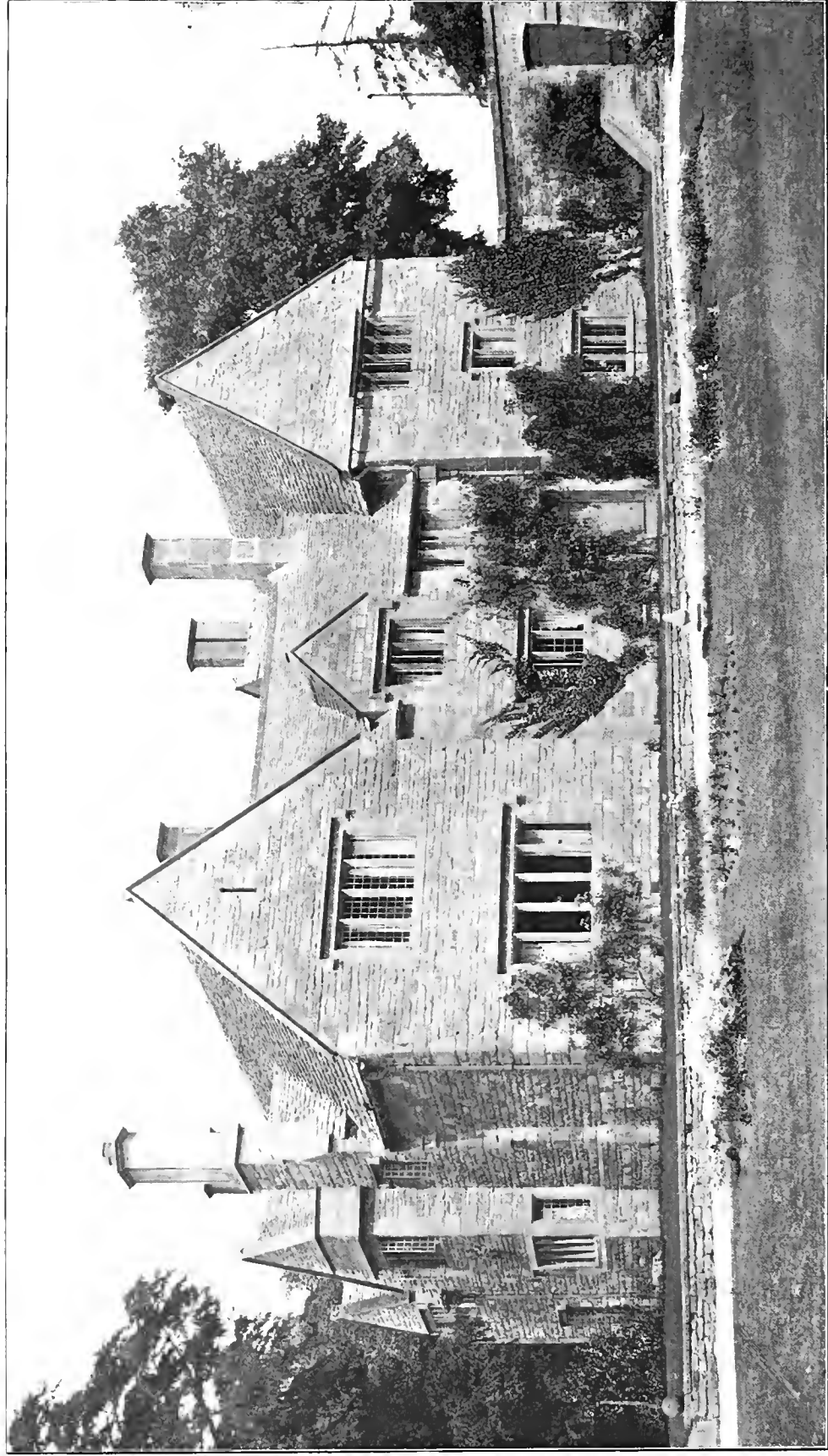


HOUSING FOR THE WORKING CLASSES, ENGLAND AND WALES: HOME COUNTIES AREA.
 FIRST PRIZE DESIGN, CLASS B, URBAN DISTRICTS.—MR. ALFRED COX, F.R.I.B.A., Architect.



A NEW TYPE OF LOW COST CONSTRUCTION FOR INDUSTRIAL HOUSING.
WORKING MEN'S HOMES.—Messrs. BALLINGER and PERROT, Architects.

THE BUILDING NEWS, MAY 22, 1918.



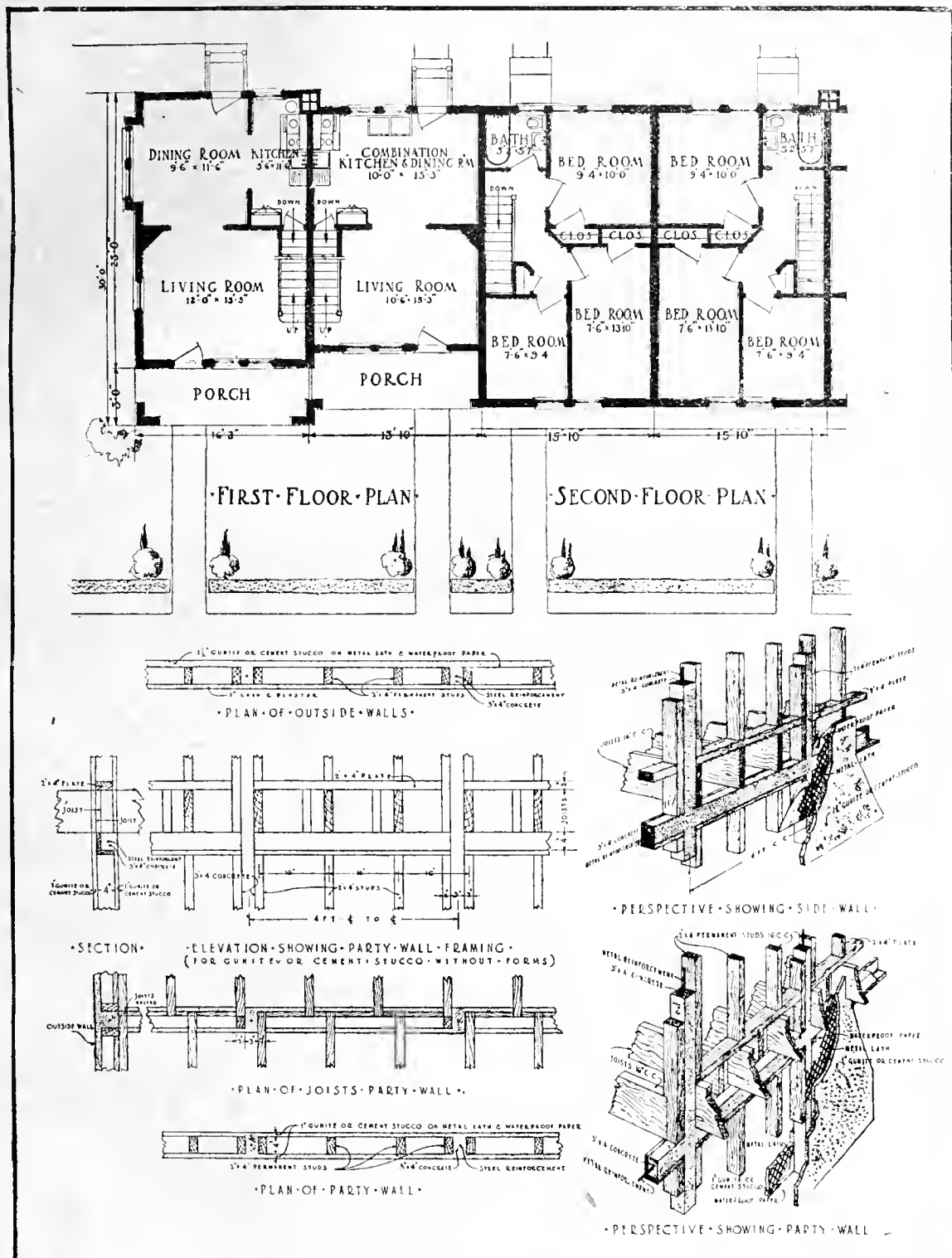
COURT HOUSE, BROADWAY, WORCESTERSHIRE.—Mr. E. GUY DAWBER, F.R.I.B.A., Architect.

THE BUILDING NEWS, MAY 22, 1918.



"WAR."

NATIONAL ART GALLERY, SYDNEY, N.S.W. (To be Executed in Bronze.)
Mr. GILBERT BAYES, Sculptor.



A NEW TYPE OF LOW COST CONSTRUCTION FOR INDUSTRIAL HOUSING.
WORKING MEN'S HOMES.—Messrs. BALLINGER and PERROT, Architects.

Our Office Table.

After 37 years' service as Borough Surveyor of Rochdale, Mr. S. S. Platt has tendered his resignation to the Town Council. His letter came before the General Purposes Committee at its meeting last Wednesday, and was referred to the Town Hall sub-committee for consideration and report. For ten years prior to his appointment as surveyor Mr. Platt was connected with the department, having come to the town with the late Mr. Thomas Hewson in 1871. Various important public works of the town stand to-day as a memorial to Mr. Platt's skill and service, as we from time to time have noted, and throughout the county he enjoys widespread repute and respect. A student, associate and member of the Institution of Civil Engineers, he was president of the Manchester Students' Association of the Institution in 1907-8. He is also connected with the Institution of Municipal and County Engineers, with the Liverpool Engineering Society, the Royal Sanitary Institute, the Manchester Geological Society, and the Geological Society of London, holding several Fellowships. He served on the council of the first-mentioned, acted as external examiner for the Victoria University in sanitary engineering, and for the Royal Sanitary Institute: has contributed numerous papers to the various associations, and taken several prizes. Mr. Platt's association with the Rochdale Literary and Scientific Society will be ever cherished by the members, of whom he is one of the originals. He was president in 1900 and 1901, and for long sat on the council. In the Transactions of the Society are to be found many valuable contributions from his pen. He is an authority on the geology of the district; geology, particularly in its application to engineering, being his favourite study. In all these activities and at St. Alban's Church, where he has occupied various offices for over a quarter of a century, he will be greatly missed.

In the course of his excavations on the Palatine, Commendatore Giacomo Boni, the

celebrated Italian archaeologist, has just unearthed a magnificent statue of Victory, carved from marble from the renowned ancient quarries of Mount Pentelikon, near Athens, which dates from the fifth century before Christ. The figure is 85 centimetres (nearly 3 ft.) high, and is very pure, simple, and majestic in style, corresponding in pose to the celebrated Torso of Victory by Phidias, now in the British Museum. Friezes from the Parthenon and other works of the most perfect Greek style have also been discovered.

The California Highways Commission has been making an effort to better conditions on its roads by the use of a plan known as "day-lighting" curves. The danger on a curving road in a hilly country is recognised by all motorists. When the curve passes around a hill there is usually a high embankment which prevents the driver of a car from seeing what is coming around the curve from the other direction. The plan is to excavate a berm or bench on the slope at the inside of the curve, at a height of about 3 ft. above the roadway, which is taken to be a little below the line of sight of the driver. Where the work is difficult owing to the nature of the material, the berms are made 5 ft. or 6 ft. wide, but it is found preferable to use berms 12 ft. wide. On a curve of 100 ft. radius a 5-ft. berm will enable motorists to see each other when 95 ft. apart. If the berm is increased to 12 ft. this range of vision is 115 ft. or 124 ft. along the road. In this way the danger of blind curves is materially reduced, and if cars are travelling at moderate rates there is plenty of time to avoid a collision.

A series of cements was burned in the U.S.A. Bureau's experimental rotary kiln in which the limestone used in the raw material was replaced in part or in whole by dolomite. A magnesia content as high as 25 per cent. was obtained in the resulting cement, and the clinker was examined petrographically. The constituents present, their amount, and the character of their formation were carefully studied. The clinker was also ground and the resulting cement subjected to the usual tests for physical properties. The results

show that cements not exceeding 8 per cent. in magnesia content will produce concretes of satisfactory strength at the end of one and a-half years. With this amount of magnesia, monticellite, and spinel (constituents not present in cements of lower magnesia content) appear; and these cements seem to hydrate with a large increase in volume.

A special summer term of the afternoon classes held at the School of Engraving, Bolt Court, Fleet Street, and at Kingsway Hall, in French, Italian, Spanish, Russian, Danish, Norwegian, German, and English (for foreigners) will commence to-day, May 22, and continue to July 20. There is only a nominal entrance fee of 1s. for each language. Students are now being enrolled, and immediate application should be made to the Principal, Mr. D. Magill, Hugh Myddelton Evening Commercial Institute, St. James's Walk, Clerkenwell Green, E.C.1.

"Tidal Lands: A Study of Shore Problems," by Alfred E. Carey, M.Inst.C.E., Fellow of the Royal Geographical, Geological, and Chemical Societies, and F. W. Oliver, F.R.S., Quain Professor of Botany in University College, London (London: Blackie and Son, Limited, 50, Old Bailey, London, E.C., 12s. 6d. net), deals with the science and art of engineering work on sea-shores and river banks. It is primarily concerned with those problems which underlie the maintenance of coastal and riparian lands, and, as a factor in such control, the extent to which horticulture may be enlisted in the cause of conservation. The book is a manual for the use of landowners and public bodies with frontages on tidal waters. It embodies an exact presentment of the measures necessary to safeguard such property from erosion and inundation. Its aim is to demonstrate how safety may be secured with the greatest economy. It is also a handbook for all students of coastal problems. The data amassed are in the main a record of hitherto unpublished observations, and the book forms a compendium giving the results of the authors' experience during many years. The book is copiously illustrated with 29 full-page plates in addition to figures in the text.

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THE BUILDING NEWS

AND ENGINEERING JOURNAL.

Effingham House.

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OUR ILLUSTRATIONS.

New Church to be erected at Leicester in Imperial Avenue. View and plan. Messrs. Pick, Everard, and Keay, Architects.

Strand, W.C.2

Coloured Plaster Dining-room at Otham, near Maidstone. Two views. Mr. Philip Tilden, Architect.

Housing of the Working Classes, England and Wales. South Wales area. Two first prize (£100) designs for urban districts, Classes B and C. Plans, elevation, and sections. Messrs. Johnson and Richards, Architects, Merthyr Tydfil.

Currente Calamo.

To not a few of our own calling serving at the front the increased destructiveness of modern warfare and the perversion of the sweet uses of all natural materials has brought something like despair, and reflections akin to those of a man who, entering a new region, finds the laws of being reversed, in the aspect of any town touched by gunfire. But to some as, writing in the *Manchester Guardian* of the 23rd inst., "H. B." remarks, there is still a deeper despair, a sense that all the criteria of strength, stability, and beauty are gone, the cement of existence dissolved. The writer recalls a certain avenue in Béthune in early days before the battle of Loos. It was a September evening, and the leaves of the lines down the street drooped, foreboding autumn. But the houses, too, had an autumnal look. They were late eighteenth century in manner, with fine-proportioned windows grouped in upright bands giving the perpendicular effect beloved by French builders. Their cornices and shouldered roofs ran the length of the street, and only an occasional gap in the tiles or scar in the brickwork told the tale of a shell. They were the simplest of building forms, yet one of the most satisfactory, and behind them stood centuries of construction and of art. Those perpendicular lines survived from the most powerful of masonry traditions, the mediæval, but the knights of François I. had returned from Italy with their cornices and key-blocks. The handwork of Dutchmen remained in their bricks. De L'Orme had applied their pilasters, Mansard had straightened their roofs. Behind a row of provincial houses stood these and many more unnamed, generations of unknown craftsmen, thinkers who thought with their hands.

"All," alas, as is deplored, how long ago! Now these tiles are prepared to be shed like their neighbours the leaves, and any lights in these windows are reflected lights from a treacherous sky. Sandbags creep up the walls from the ground. They look sodden and green with damp. Some of the sandbags are torn, and earth spills from them. They seem the new kind of building material superseding the old, the shapeless elements of the modern world permitted by

modern artillery. These houses had seen and survived wars before, but not war as a geological period. This was the same Béthune into which De Vigny, most sensitive of soldiers, had ridden one evening with two strange companions, Laurette and her ancient guardian the Chef de Bataillon. Here he bade them farewell and lost sight of the tragic pair in the press of troops, for the army of the Duc de Berry occupied the town. De Vigny who wrote in the innocence of his age: "A présent les villes conquises n'ont à craindre que de payer des contributions." Something more than despair can be expressed by buildings. Resentment can be expressed. The walls of Ypres were hated and feared by troops not critical in the matter of environment. "H. B." declares he understood the meaning of this only when he had visited the town on a silent midday. The house fronts that survived seemed so many treacherous faces down the streets, maniacal, tortured, out of reason. They seemed full of vengeance for the nobler stone citizens among them who had perished—the Boucherie, the Conciergerie, the Hoornwerk. This last most perfect of thirteenth century secular buildings has vanished entirely. You will not find even its ruins, but everywhere in the silence you will hear a nameless crumbling and complaining. . . . So breathes the architect, who, alas! can never be an *enfant du siècle*. But the chemist replies to his thought: "You builders have ever presumed too much on the continuity of things. Now you are *démolés*. The field is ours." Meanwhile, the walls of Rheims crumble more swiftly. The clerestory lights of Amiens, poised for eight centuries between their vaults and their flying buttresses, look out over Picardy and prepare for the monstrous sacrifice.

One hears such constant references to the present high cost of building that a reference to an old Bill of Quantities which the *Irish Builder* has unearthed is of interest. The bill related to extensive additions to a church in the south of Ireland. The architect was a well-known Dublin man, long since passed away, and the bill, dated 1884, was prepared by an equally well-known surveyor, likewise deceased, as is the contractor also. The building works had a somewhat unusual history. The work was put up to competi-

tion, and the contract let to the builder referred to, an active and capable man, who, however, failed before the work was half way through. Nevertheless the building was completed by direct labour for a sum well within the original estimate, so that it was not excessively low prices that brought about the bankruptcy of the builder. At the conclusion, the employers were generous enough to hand over the amount of the saving effected to the builder, as they did not desire to profit by his misfortune. The date is sufficiently remote to afford contrast with the present time, and is yet well within the memory of middle-aged and elderly men. Rubble masonry cost 11s. per cubic yard. 9-in. by 12-in. chiselled limestone, rebated, chamfered, and splayed window sills were done for 4s. 6d. per ft. Plate-tracery heads to windows, 9-in. thick, rebated and circular grooved for leaded lights, cost only 17s. 6d. per superficial ft. Portland stone bosses for carving, 15 in. by 7½ in. by 7½ in., were done for 5s. each. Thirty squares of old roofing were removed for £7 10s. New slating cost 55s. per square rendered complete—not so much below present prices for slating. Milled lead in gutters and flushings was 24s. Three coat wall plaster, 1s. per yard super. Hacking off old plaster, 3d. a yard. Plastering in narrow widths to windows, 2d. a foot super. Plastering between rafters, 2s. 6d. a yard, including strong fillets nailed to the sides of rafters. A 10½-in. girth plaster label moulding, 1s. per foot lineal. A 3-in. diameter plaster bead, 6d. a foot lineal. 7-in. bush cement skirting, 2d. a foot lineal, extra over wall plaster. The small sum of £3 is allowed for the entire attendance of the plasterer on other trades, in a job of alterations costing well over £5,000. The carpentry section is missing; it would probably have been the most interesting of all. Leaded lights are apparently much the same price as they were until lately, as they are priced at 3s. 6d. per foot super. Four coat oil painting to wood work was done for 10d. a yard super. Knot stop, size, twice oil and varnish and stain to wood work, 1s. 6d. a yard super. Painting 6-in. eaves gutters four coats, first two in real lead, 4d. a yard lineal. Wages, of course, thirty-four years ago, were much lower than now, the cost of living being correspondingly less; hours of work too, were longer, and, it must be confessed, men put in a better day's work, with a more uniform and steady output.

so that a contractor could form a much more reliable estimate of the probable cost of work to himself. Church building was in full swing then, and there was a splendid class of tradesmen connected with this particular branch of building.

Lord Chelmsford's Committee of Inquiry into the way public works in India are carried out has issued its report, which hardly seems to us likely to improve the present system, which, as is admitted, suffers from the duplication of the engineering staff, with its separate establishments for public works in charge of district boards, and for the roads and buildings which are under the direct management of the Government. It is recommended that the Government should transfer non-irrigation and non-railway public works from the Department to local bodies, and thus bring public works into proper relation with the district and divisional administrations, and that the Government should gradually expand this system of local control. In the proposed reorganisation of the Public Works Department there would be three groups—a superior engineering service composed of officers to fill the higher executive and administrative appointments; a service organised on the mode of the existing provisional civil services which would provide the bulk of the sub-divisional offices, and a single subordinate service. If the technical staffs of the local bodies are efficient the policy outlined in the report may be practicable. We very much doubt it. It will be necessary for each local board to employ a capable district engineer, together with the necessary subordinate establishment. Mainly, we suppose, to provide against his and its incapacity, it is proposed to maintain a Public Works Department service of inspectors of works composed of men of high professional experience, whose functions will be advisory. No material modification of the central organisation at provincial headquarters is proposed. The chief engineer will remain at the head of the department, and will be assisted by three specialists for electrical, sanitary, and architectural engineering, where the conditions justify their employment. As regards private enterprise, the committee is impressed with the necessity of encouraging the growth of the contracting system, as tending to general industrial development. A perfectly legitimate aspiration, but too seldom realisable under present conditions.

No more "sale or return" terms are to apply in the distribution of newspapers, magazines, periodicals, pamphlets, books, almanacs, diaries, postcards, etc., on and after June 24. This announcement is made by the Board of Trade under a Paper Restriction (Prohibition of Returns) Order, dated May 24, made in accordance with the Defence of the Realm Regulations. This means that no reader will get this journal unless he orders it regularly of his news vendor, or other person from whom he buys it. It is a

sensible regulation, and we hope it will remain in force permanently, and so save the wastage of paper and heavy loss to publishers and news vendors on unwanted unsold copies and the heavy freight thereof. We once more remind readers that if any difficulty arises in their supply by a news vendor they can have their copies sent post-free to their own door by remitting to us a quarter's subscription, or for any other term reckoning the amount at the cost of the copy per week. We pay postage, and guarantee punctual and early delivery. But don't do this if your news vendor supplies you regularly.

SOME CONDITIONS OF HUMAN NURTURE.

We suppose few of us—even the most enthusiastic planners of "garden cities" and other modern improvements in the habitations of past years—can have failed to realise the obvious fact that there is something, sometimes, in the reluctance of the re-housed to appreciate the very desirable improvements embodied in the new dwelling, which not seldom culminates in the defiance of all rules and regulations, and not infrequently renders the last state of the inmates as much worse than the first as was the swept and garished house of the parable. Fewer by far, probably, are those who have been painstaking enough to seek for the causes, diverse as they doubtless are, and as different in aspect as are the slum dwellings of imperfect urbanisation, and the scantier and scattered populations of rural districts, where the evils of crowded town life are counterbalanced by the distances, which make medical supervision difficult, nay, often impossible, and by economic complications which account for the disproportion between the local production of food and other necessities and local demand.

We have been much struck with this after reading one of the excellent reports issued by the Carnegie United Kingdom Trust on the existing provision for promoting the physical welfare of mothers and young children in England, Wales, Scotland, and Ireland. It is written by Dr. W. Leslie Mackenzie, who deals with Scotland, and who although the medical member of the Scottish Local Government Board, has not limited his regional studies to the observation of his fellow men and women as mere statistical units, but has in a delightful degree the rare faculty of regard for such as beings of like flesh and blood, struggling organisms, sometimes of very imperfect development, but yet brothers, sisters, and children, whose needs are urgent, and often very badly met by the reformer because he has failed to grasp the indomitable labour and self-sacrifice with which they have striven their best to grapple with adverse circumstances.

To give one instance among many, and only selected because it bears much on the point above emphasised, we take Dr. Mackenzie's references to the so-called "Black Houses" of Lewis, of which hundreds still exist, and which quite possibly some readers who have seen them have somewhat hastily regarded as constructive anachronisms of the lowest order. A cursory observation of their construction and arrangement might well convey such an impression to the superficial beholder. They have no chimneys; the peat fires are kept burning day and night; the rain soaks through the straw roofs, so that the more or less constant soakage through of the rain necessitates

"box beds," and close contiguity of the cows and their manure at first sight present apparently conclusive evidence of shiftless laziness and culpable indifference. And yet such a verdict would be as mistaken as it would be an unjust one. For, really and truly, the houses at every point are adapted to their fundamental purpose, and are fundamental parts of the only system of agriculture formerly possible in this island of gneiss, rock, clay, and peat moors. As Dr. Mackenzie says, "It is part of the price that a people of immense ability and high character have to pay for their civilisation. The stones are from the moor, the timber was won from the sea, lime mortar is dear and frequently unobtainable, the roof must be stripped off every year, so the walls are low, and the peat-reek is let saturate it to improve the manure which helps to keep the craft lands fertile. Of course, Dr. Leslie does not believe in "Black houses" with foul cattle byres close to their walls, but he warns us wisely that we shall utterly fail to improve matters if we shirk the trouble of arriving at the reasons for the evils of a past system, or fail to stimulate its sufferers into rational lines of progress, the pursuance of which clashes at every step with the traditions of centuries, and habits dictated by circumstances utterly beyond control.

We remember some years back on the coast of quite another part of these islands a benevolent Government had erected a block of coastguard dwellings in the brick-tank style, of a severe type, and planned on ideal lines of thorough ventilation, and with all possible causes of nuisance yards and yards away. It was a bleak spot in the best of weather; and the inmates who were installed felt the change from their snug thick-walled cottages severely—especially the children. Remonstrances were, of course, disregarded, but eventually, and before very long, it was discovered that the station was no longer needed, and the men and their families were transferred. The block was handed over to the local authority for a small sum, but no inducements would attract tenants, who preferred the less up-to-date but really more inhabitable and infinitely more home-like erections of their fore-bears. Whether the block still stands we do not know; when we last saw it, it was a forlorn-looking monument to the wasteful activity of the authorities, of the sort which we predict will not be far to seek in a few years, if the Government succeeds in enticing the local authorities to saddle themselves with the dwellings it proposes to finance.

We are neither optimists nor pessimists, but we do wish some of our "thorough" reformers who denounce the "private builder" would remember that he sometimes gauges better the capabilities of his prospective tenants than many of the well-meaning folk who seem unable to recognise that development along the lines of rational education, research of and regard to past and present institutions, can alone beneficially modify the habits of each succeeding generation. To all such we hasten to recommend the perusal of Dr. Mackenzie's thoughtful volume. It will lead not a few to a much needed, better comprehension of the fundamental problem—the influence of right nurture on the organism, adult or infantile, and better govern the well-meant but too often fruitless philanthropy which seeks to drive progress at railroad speed along the road to human betterment.

Funds are being raised in aid of the building fund of a new church to seat 600 persons, to be erected at Nixonville, Merthyr Vale.

THE ARCHITECT'S PLACE IN RAILWAY WORK.

Speaking before the Canadian Railway Club on "Architecture and Building as applied to Railway Work," Mr. C. Gordon Mitchell, architect, representing the Canadian Northern Railway Company, Montreal, outlined the work of the architect in designing railway terminal and passenger stations. He pointed out how common improper designs are due to non-appreciation of the conditions railway terminals have to fulfil. A large part of his paper was devoted to a vigorous condemnation of standardisation methods, as practised by some of the railway companies in regard to their stations. The following is condensed from Mr. Mitchell's paper:—

COMPETITION ENSURES BETTER STATIONS.

The retrospective view is short to the time when there was not a comfortable, well-designed railroad station on the continent of America, and the principal reason of this condition is not far to seek—viz., lack of competition. If there be any doubt on this subject, I would ask you to make a comparison between rival railway stations in most cities and the same companies' stations where there is no competition. Look at some of the older railroad passenger stations and tell me have they one redeeming quality? Do they in any way fulfil the objects for which they were built? You answer yes, and I agree; but I maintain they fall very far short of fulfilling what might have been accomplished had they been properly designed. Now, if this arises from ignorance of the case it might be excused; but it cannot be applied to railroad companies, for you will find that where there is keen competition the passenger station has generally been designed by a competent architect, collaborating with the officials of different departments, so as to include all requisites necessary to the comfort of the public, efficiency of the employees, and good administration, thereby contributing to the success of the railroad company. If this be the case at competitive points, does it appear good judgment, sound logic, or wise business that at all others anything is good enough which will protect the baggage, express, and passengers from the storm? Will an hour spent in a poorly-lighted, badly-ventilated, and insufficiently heated waiting-room tend to make the public speak highly of any public service? The public are the patrons, and it is they who should be considered. Therefore I content that much care and study should be devoted to the designing and building of even the smallest station, so that the very best results may be obtained from the money at the disposal of the architect. I say architect advisedly, because I am convinced that no other profession is capable of designing a building which will fulfil all the conditions of cost, requirements, etc., and then only if he has had good judgment and experience combined.

BUILD SOUNDLY, NOT GAUDILY.

This is a commercial age, and cost, therefore, looms largely on the horizon of every undertaking, and it is by no means absent in building enterprises. Inferior designers, knowing their inefficiency, will often attempt to excuse the shortcomings in their work on the ground of cost. No weaker excuse could be attempted.

Not many railroad architects suffer from the burden of having too much money to spend on their buildings, and he is wise who knows that the foundations are well designed before thinking of decoration; but, unfortunately, the public demand show at the expense of construction. The true spirit of architecture is sound construction, and if the proportions are well designed, the results will be pleasing, in spite of the lack of decoration. Are we to expect good proportion from a designer who is ignorant of the Five Orders of architecture, oftentimes totally so? The intimate knowledge of these is the cradle of all good proportion, and to obtain this knowledge requires not only inborn aptitude, but years of study. If, then, my statements are correct, it is little wonder we have so many monstrosities in railway buildings. Where does the blame lie for so pitiable a state of affairs? It is not the chief engineer

of the road who is responsible, even if the work of designing the building falls directly to his department. I suspect the finance department is generally the culprit, and, "to cut down expense," the work of designing important buildings is often delegated to one of the junior engineers, the prevailing idea being that anyone can design a building. The most simple and inexpensive building may be made adequate and beautiful in its simplicity if designed by a competent designer and carried into effect by a properly qualified builder, the two collaborating in their work.

As to cost, the sure method of increasing the eventual capital cost is to employ unqualified designers, for in a very short period of time the maintenance of badly-designed buildings will eat up very much more than the original outlay of paying for good design. If this is not the case, why, let me ask you, do the shrewdest business men throughout the world employ architects to design and supervise the erection of their buildings? Some railroads have adopted a middle course—that of employing architectural draughtsmen, generally the cheapest men on the market. Here, again, I question the wisdom, and, from personal experience, I have found that the cheap assistants are dear at any price.

STANDARDISATION DEPRECATED.

I would now call your attention to standardising buildings. Standardisation at first glance appears very attractive from the economical viewpoint, but does it bear close scrutiny? First, standardising suggests similar conditions and demands a unit system of designing. Can a unit system be applied successfully throughout? I am of the opinion that it can only be applied partially, even to what might appear stereotyped buildings of the commercial class, e.g., workshops, warehouses, and freight sheds.

The chief objections, in my opinion, to standardised buildings are as follows:—In every case where a building is necessary the conditions are different. In attempting to make the standard suit the varying conditions it will mostly be found that so many variations occur that little of the standard plan remains, and possibly better results will be obtained by ignoring it entirely. For example, will the requirements of a roundhouse at Prince Rupert be exactly similar to those at, say, Quebec, presuming that the engineering work executed at each point is of the same character? If this be the case, can a standard roundhouse be erected at every requisite point from Halifax to the Pacific Coast, and give full satisfaction in each case by merely reducing or adding to the number of units necessary? The climatic conditions differ all the way through, and this fact alone will, to some extent, modify the details of a standard plan. The best materials to use for construction and their cost must differ in different localities, so that in some cases it might be wise to use stone, in others brick or reinforced concrete, or any two or perhaps all three of these materials. If this be true, we shall want not one, but perhaps three standard roundhouse plans to begin with, and, then, how about the units? Can a standard be adopted the unit of which can either accommodate a hundred workmen or, by being doubled, accommodate two hundred and still bear equal relation in each case? I should question it. I do not argue against a typical lay-out of plans for certain kinds of buildings. The conditions being similar, the general lay-out of a plan may be typical with successful results, but so soon as the conditions change to any considerable extent I maintain that a standardised building plan will have to be changed. As regards the changed conditions, these can only be fully appreciated and provided for by trained men.

CONDITIONS DIFFER WIDELY.

Wherein lies the great advantage of standardisation relative to building? If it is merely to save the cost of designing a new one, it may be, typical plan to suit all the new conditions, then it appears to me a fallacy. In the case of passenger stations, where the amount and kind of business done, the size, position, shape, and levels of the ground differ in each case, a general type of

station may, with good results, be adopted, but I cannot reconcile a standard plan with satisfactory results? Standardisation may be best applied to things that are required by the hundreds to fulfil the exactly same requirements and conditions. Manufacturing by hundreds or thousands is much less costly per unit than producing by units as when required, but the cases are not parallel; in buildings the case is rather reversed. We build to suit the exact necessities of a different requirement each time, and I may add that after thirty years' experience in active architecture and building I have never yet been able to use the same or similar types for the same or similar purposes and governed by similar conditions, but always with differences sufficient to call for a new plan. I have only once worked as an architect's assistant in an office where standard drawings were used, and I am positive my employer did about the worst work I have ever touched. His idea was to save cost in production of drawings, but the time spent in trying to adapt these standards to the new work was a very questionable piece of financing, a very degrading form of architectural practice, and resolved itself into a continual stream of new assistants through the office, until he, at last, reached the class of man who had no interest in his profession beyond the pay cheque at the end of the month.

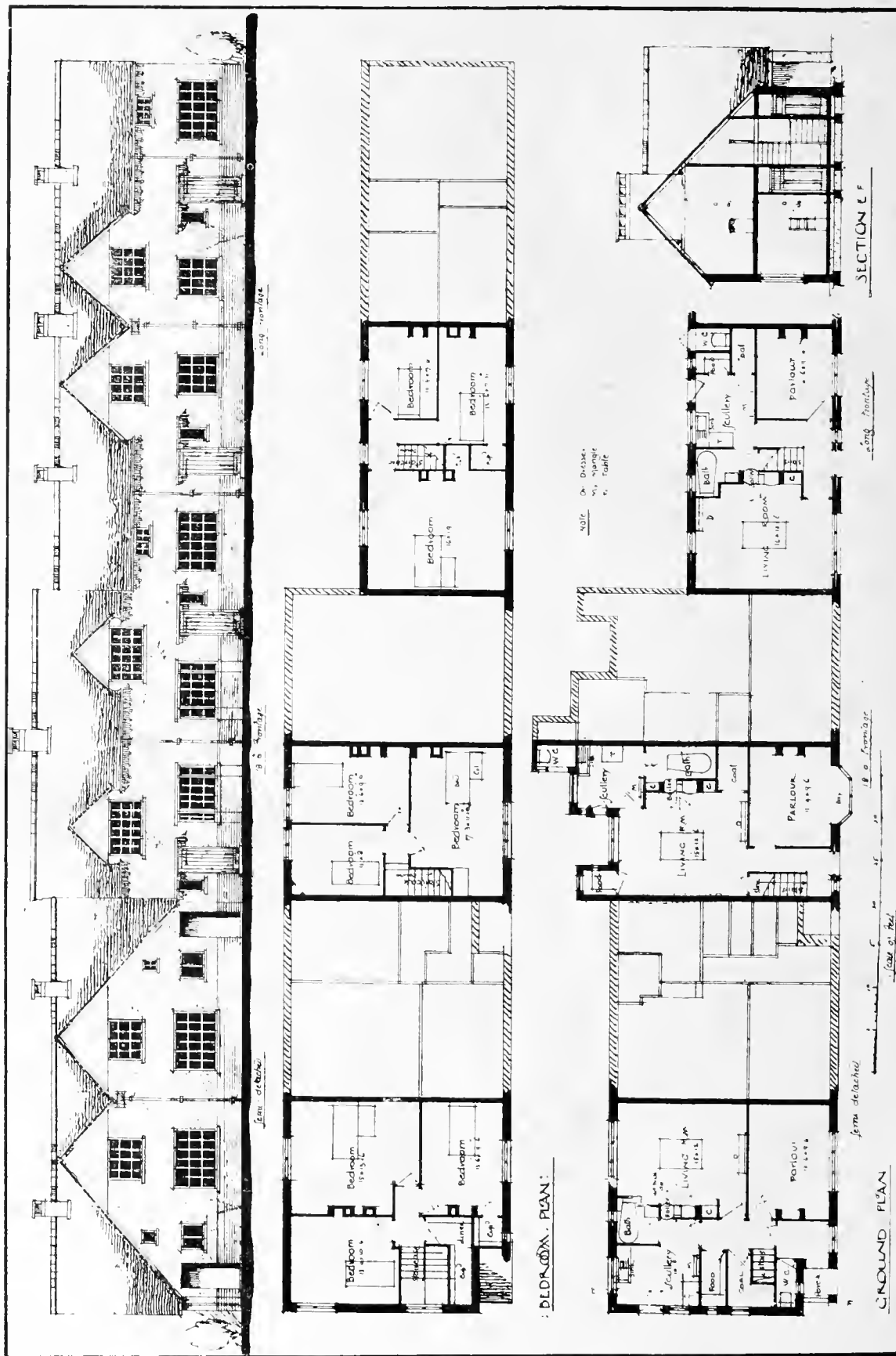
Standardisation of building materials has often been attempted, but cannot be strictly adhered to. Let us take one example which is very popular with large companies, viz., standard paint. I think probably more money is made by manufacturers out of their standardised paints than any other they produce.

Perhaps no building material is more faked than paint. To the average person all paint is just "paint." It is a commodity very largely advertised. Advertising is expensive, but it pays when the scale is large enough, and, naturally, it is the purchaser of the largely-advertised paint who does the paying. He pays in the quality of the material because he is ignorant of what he is buying. Companies, on the other hand, often have analysis of the standard paint they use, and upon this analysis the supply contract is based. These contracts get renewed from time to time; the purchasing agent has long forgotten the analysis exists, and, in many cases, the manufacturer also. It would be well in all cases where standard paints are used to have a periodical analysis made, so as to be sure the manufacturer or some of his employees have not taken it upon themselves to slightly modify the standard.

OBJECT TO AUTHOR'S OPINIONS.

During the discussion which followed, the views of Mr. Mitchell were criticised by some speakers, who held that his ideas were too Utopian. Exception was taken to some of his remarks regarding standardisation, the opinion generally being in favour of the standardisation of buildings wherever possible. It was pointed out that buildings of this class were specially adapted for small towns of a similar character, and it was stated that many of the C.P.R. stations were constructed from standardised plans. In the case of terminals it was a different proposition, and it was imperative to employ architects to design suitable buildings. The question of cost, too, was often a consideration and buildings had to be erected within a certain sum. It had been stated that the only proper place for the use of reinforced concrete was underground, and that it was impossible to embellish reinforced concrete structures. The reply to this was that there were many instances where concrete buildings had been to a certain extent embellished, and that masonry entailed considerable cost in upkeep by reason of the necessity of being repainted.

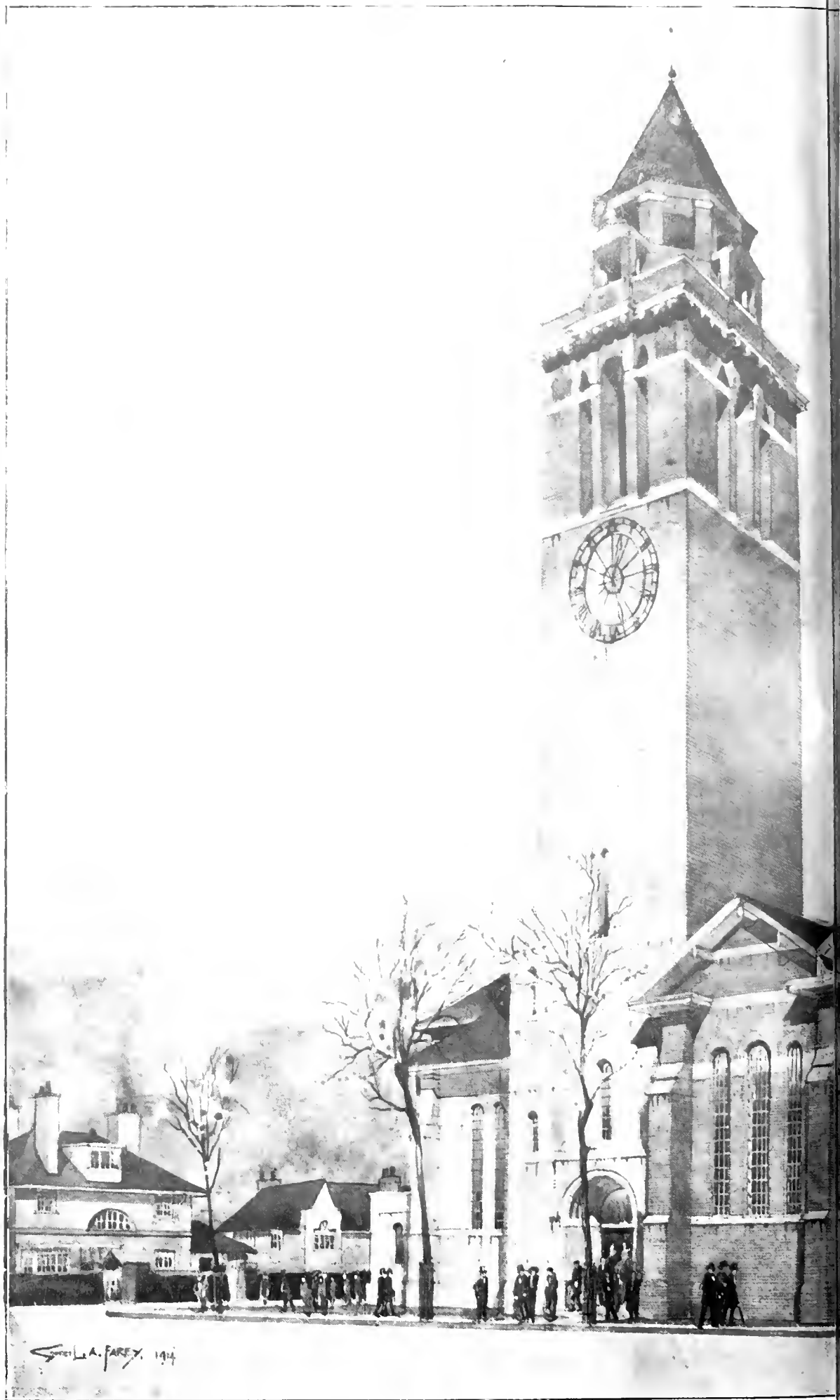
The death occurred on Tuesday week of Mr. George Frederick Vine, of Messrs. Rutley, Son and Vine, auctioneers and estate agents, 5, George Street, Easton Road. Mr. Vine had been spending the Whitson holiday aboard his yacht "Idema" in Poole Harbour. On Tuesday, owing to the breaking of a wire in an accommodation ladder, he was precipitated into the water and drowned. The deceased was 65 years of age.



HOUSING OF THE WORKING CLASSES, ENGLAND AND WALES: SOUTH WALES AREA.
FIRST PRIZE DESIGN, URBAN DISTRICTS, CLASS B.—Messrs. JOINSON and RICHARDS, Architects.



COLOURED PLASTER DINING ROOM AT OTHAM, NEAR MAIDSTONE.—MR. PHILIP TILDEN, Architect.



NEW CHURCH TO BE ERECTED AT LEIC

MAY 29, 1918.

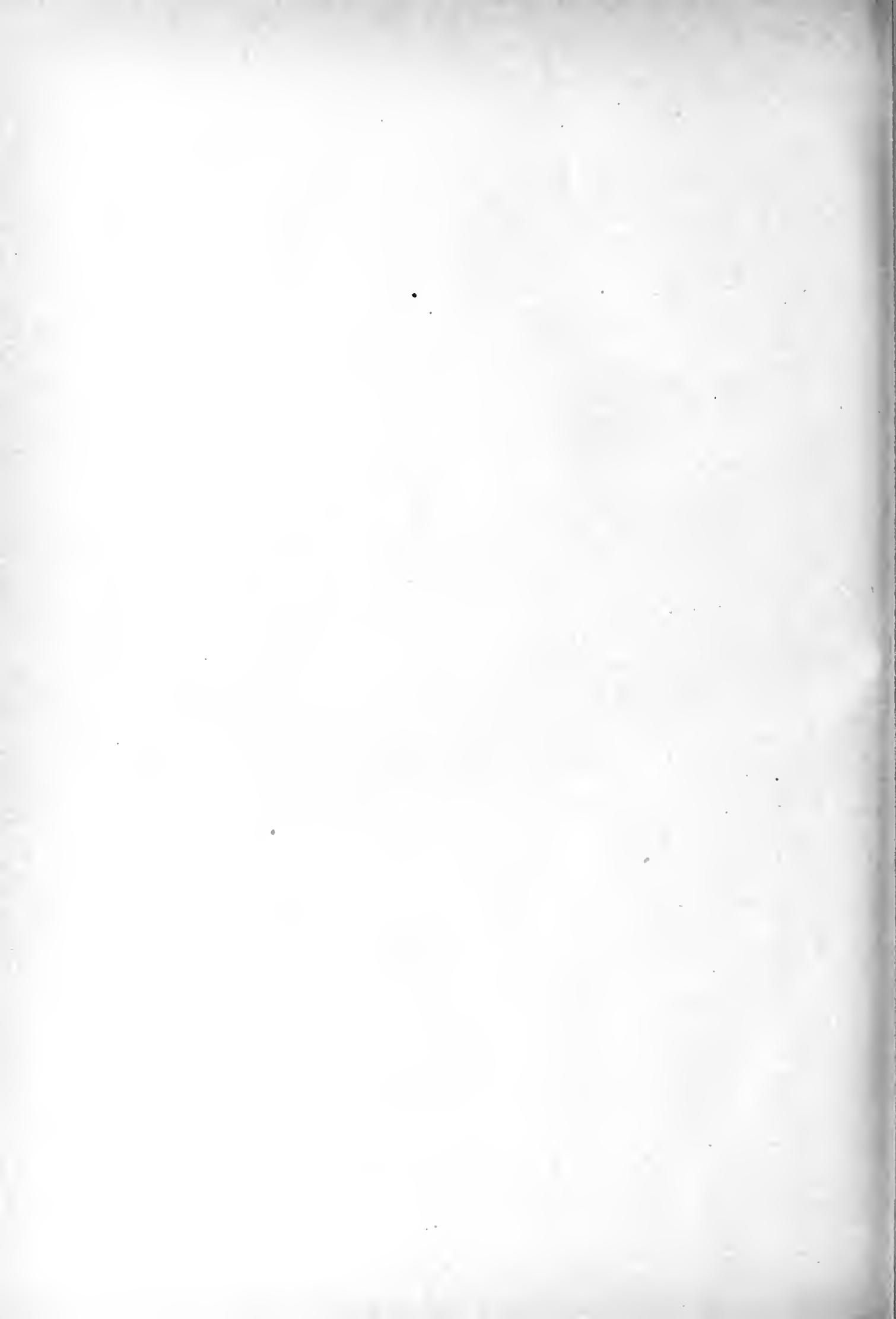


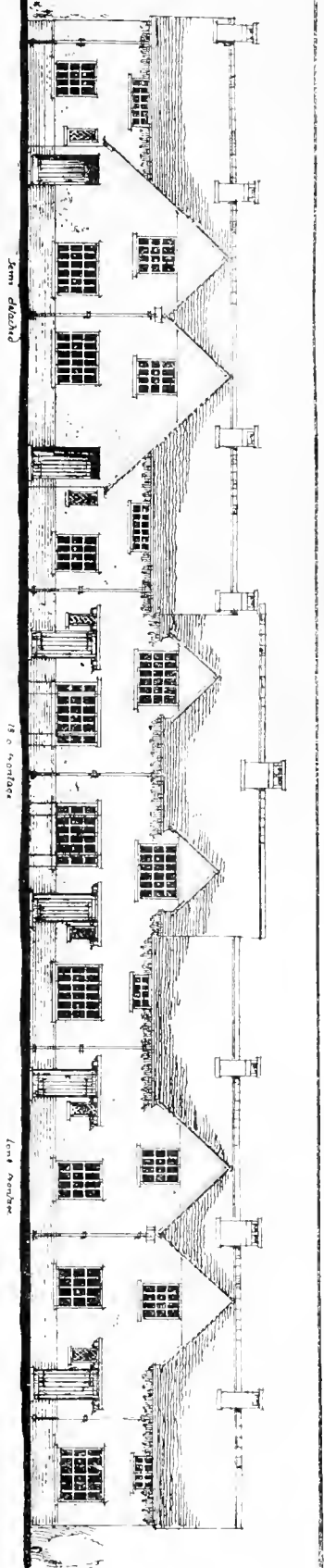
R.—Messrs. PICK, EVERARD and KEAY, Architects.



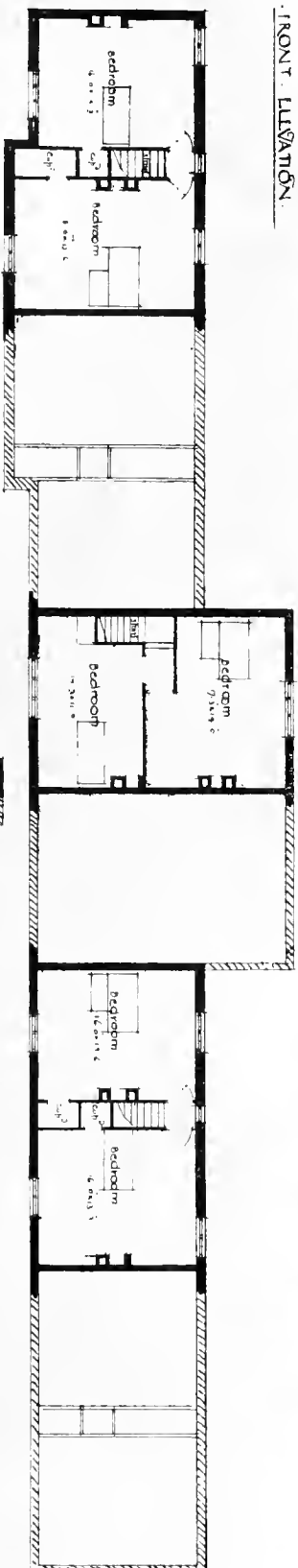


COLOURED PLASTER DINING ROOM AT OTHAM, NEAR MAIDSTONE.—MR. PHILIP TUDEN, Architect.

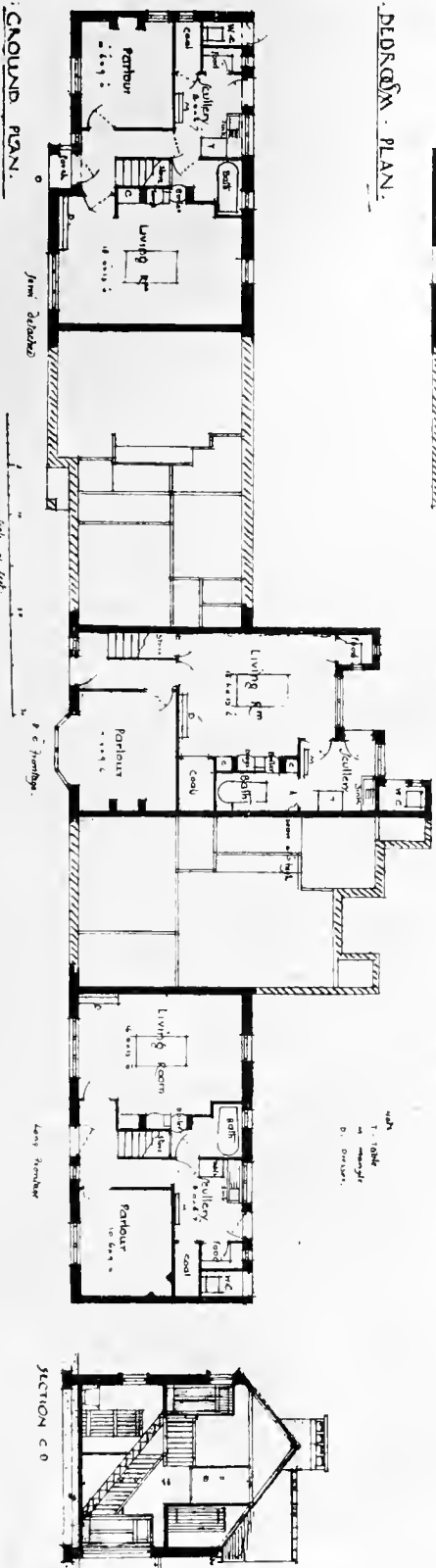




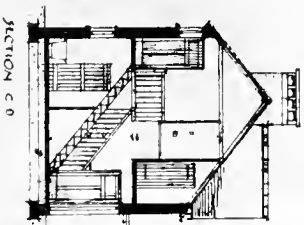
FRONT ELEVATION.



BEDROOM PLAN.



GROUND PLAN.



HOUSING OF THE WORKING CLASSES, ENGLAND AND WALES: SOUTH WALES AREA.
FIRST PRIZE DESIGN, URBAN DISTRICTS, CLASS C.—Messrs. Johnson and Richards, Architects.

Our Illustrations.

NEW CHURCH TO BE ERECTED AT LEICESTER.

This water-colour drawing is now prominently hung in the Royal Academy Exhibition. Above the view a plan of the church shows the site facing Imperial Avenue, the entrance end being in Fosse Road South in a rapidly developing portion of Leicester. The building is to be carried out as soon as circumstances permit. The materials will be local bricks, Weldon stone dressings, and the roof will be covered with Charnwood Forest slates from the neighbouring quarries. The perspective illustrates the south side of the church extending along Imperial Avenue, the choir end overlooking Sweetbriar Road. The architects are Messrs. Pick, Everard, and Keay, Millstone Lane, Leicester.

COLOURED PLASTER DINING-ROOM AT OTHAM, MAIDSTONE.

This room was bare and featureless in a house of otherwise great character, and it was felt that an abundance of colour was necessary for it to take its place amongst the many treasures of its owner. The fireplace is of stone, and the dado of the room entirely of stone colour, with stone points showing; the foundation of the upper part of the walls is of a deep French blue, and the arced of embossed plaster is of gold. The cartouche above the fireplace is also of deep blue with gold strapwork. The oblong panels framing the cartouche and at intervals around the room are of rich crimson. Impressions from great Italian and early pictures are painted in the arced, alternating with arabesques in gold, and the upright crimson panels are decorated with gold caryatides. A feature, too, is the old oak door with shallow lozenges carved in its panels. These are picked out in blue and red and gold, as also is the shallow scalloping on the stiles and rails. The whole of the colouring was carried out by the architect himself, and the furniture is Henri II. and William and Mary. Mr. Philip Tilden is the architect. The two photographs reproduced are on view at the Royal Academy.

HOUSING OF THE WORKING CLASSES, ENGLAND AND WALES—SOUTH WALES AREA—TWO FIRST-PRIZE DESIGNS.

Messrs. Johnson and Richards, of Merthyr Tydfil, were awarded the first premiums of £100 for their designs under Classes B and C for urban districts, and the second prize of £50 for their design in Class A, as well as first prize in Class D. We illustrate their two premier premium plans to-day. The authors say:—"One of the essential features in planning cottages in this area, owing to a large percentage of sites being on the hill-sides near collieries, is the necessity of having shallow houses with long frontages. Another is that bathrooms should be arranged on the ground floor. The latter, owing to the competition conditions stating that back additions were to be minimised as far as possible, made the planning of the ground floor somewhat more difficult than in other areas." The authors of these successful designs now illustrated have arranged for bathrooms adjoining the living-room combination range, and have thereby economical water service pipes, and at the same time the bath and sink wastes are well arranged to empty into drains. It is intended to fix in the bathrooms a small heating coil to serve two purposes, viz., the drying of working clothes and the heating of bathroom, owing to miners frequently having to work in water, and always in a high temperature. Another feature of these plans is that generally there is no direct communication between living-rooms and working sculleries, the living-rooms being particularly designed from a comfort and health point of view. It will be observed that in no case are there any winders to stairs. The authors consider that the cheapest construction in South Wales is 11-in. hollow brick walls cement rough-casted externally, and Welsh slated roofs and concrete floors boarded, and no wood floor joists. All rooms are well lighted and

ventilated, and living-rooms are provided with hot fresh-air inlets entering room over fireplace, which can be regulated as desired. We shall publish their prize design under Class A at an early date, and give their scheme for the one-floor cottage under Class D, which took the first prize.

THE ARCHITECTS' ASSISTANTS WELFARE COMMITTEE.

A general meeting of architects' assistants was held at the Architectural Association, 35, Bedford Square, W.C.1, on May 16, 1918. Mr. H. H. Wigglesworth, in the chair, explained that the meeting had been called for the purpose of electing five assistants, to serve on the newly-formed Assistants Welfare Committee.

The Institute had nominated Mr. A. G. R. Mackenzie as their representative; the Society of Architects, Mr. R. Goughbourn Lovell; and the Architectural Association, Mr. H. H. Wigglesworth; and Mr. Yerbury had consented to act as Secretary. The desire was that the majority of the committee should be composed of assistants. He proposed for election the following assistants, who had been nominated to serve on the committee:—Mr. R. A. Duncan, Mr. F. S. Haynes, Miss E. Lowy, Mr. C. McLachlan, and Mr. Charles Pickford.

Mr. A. O. Collard supported the election, and hoped that one of the objects of the committee would be, not only to keep a register of young assistants who come back from the war and require engagement, but also to keep a register of employers as well, and really be a link between those who wanted work and those who wanted help.

The nominations were then put to the meeting, and agreed to unanimously.

Mr. Charles Pickford inquired whether it was proposed that the committee should be in the nature of a benevolent committee or an arbitration board, to deal with any matters arising between employers and assistants. Mr. Wigglesworth replied that the committee would bring both architects and assistants together, and so further promote the harmony which fortunately already existed in the profession. He felt sure the committee was needed and that it would be a success, and he hoped that it would be cordially supported by the whole profession.

OBITUARY.

To the grief of everyone who knew him and esteemed highly for his kindly nature and constant readiness to help any good cause or purpose, the death was announced on Monday week, at Bath, of Mr. Percivall Currey, at the age of 67, of the firm of Messrs. P. and H. W. Currey, architects, of 37, Norfolk Street, W.C. Mr. Percivall Currey, who resided at 5, Pembroke Crescent, W., had been unwell some little time. He was buried at Bath on Thursday last, Mr. Alexander Goddard, the Secretary of the Surveyors' Institution, of which Mr. Currey had been the Honorary Secretary since 1909, representing the President and Council at the funeral. Mr. Currey was also the Honorary Secretary of the Architects' Benevolent Society, and to both institutions he gave the best of service. He was articled to the late Thomas Henry Wyatt, and was with him when he built Holford House, Park Lane, W. He was in partnership with his father, the late Henry Currey, when he was joined by his son, now Lieut. Harold Currey, R.G.A. He succeeded his father as surveyor to a portion of the Duke of Devonshire's estate. He acted as surveyor to St. Thomas's Hospital, and was responsible for the more recent additions; also as surveyor to the late Hammond le Strange's estate at Hunstanton, and Sir Gilbert East's estate at Kennington, and others. He acted as Examiner at the R.I.B.A. and the Surveyors' Institution for many years. Much work of domestic character was carried out through the country from his designs. As an arbitrator he acted in many cases of importance. He was born in February, 1851, and was educated at Eton, playing in the cricket elevens in 1867 and 1868. The business will be carried on by Lieut. Harold Currey on returning to civil life, who thus succeeds his father and grandfather.

Correspondence.

ORDNANCE MAPS AND THE METRIC SYSTEM.

To the Editor of THE BUILDING NEWS.

SIR,—I have read with great interest Lieut. Martin's paper reported in your issues of May 8 and 15, 1918.

I want to take up one point only—the Ordnance map question, with reference to the survey known as the "parish" map, on the scale of 1:2500. To those who are not surveyors I would explain that this simply means that the map is 1—2500 full size—that is, 2,500 metres on the ground is represented by 1 metre on the map, and, given a sheet of paper of Gargantuan size, 2,500 miles on the ground by 1 mile on the paper, and so on, taking every possible unit of length the whole world contains. So much for the claim that the scale is *metric*. Decimal it may be, of a sort, but most certainly not metric.

The paper goes on to say that the parish maps are photographed down to smaller scales—6 in., or 1 in., to the mile—and Lieut. Martin claims that we thereby would help the enemy if he invaded us. But photographing *up* is as easy as photographing *down*, and if we had prepared the parish map on the scale, say, of 2 ft. to the mile and published the sheets, in what way could we have prevented an enemy from preparing, by photography, the metric reproductions required for his use?

British Ordnance maps are decimal in the British land system. As Lieut. Martin states, any map drawn in a decimal scale can be used with any decimal system of measure. The metric maps can, for example, be scaled off in British units, 100 links to the chain, and heights read 5 links to the *metre*. Since 11 yards equal 10 British metres of 5 links each, any distance read off in British metres is converted at once into yards by adding 10 per cent. I pointed this out long ago to the War Department, so can only assume that decimals are found as cumbersome in British war as in British manufacture and retail trade, etc. It is marvellous how our people shy off decimals!

Lieutenant Martin should refer to *Whitaker's Almanack* for 1918, pages 389 *et seq.*, and to the *Daily Mail Year-Book*, also of 1918, page 114, for certain modern developments which he does not appear to be acquainted with.—I am, Sir, yours, etc.,

E. A. W. PHILLIPS.

Rawdon House, Hove.

Renter's Geneva correspondent says the death has occurred there of M. Ferdinand Hodler, the famous painter, at the age of 65.

The Duke of Atholl has intimated that he is prepared to present Dunkeld Cathedral to the nation, following the recent example of Lord Glenconner in the case of Dryburgh Abbey and the Duke of Buccleuch in the case of Melrose Abbey. The cathedral was completed in 1463.

Mr. Edward Holroyd Bousfield, surveyor and auctioneer, has died in London at the age of eighty-five. He was in partnership with the late Mr. Edwin Fox, and subsequently with his son, under the style of "Edwin Fox and Bousfield" for over half a century, and retired in 1909.

A concrete monument, in honour of Jefferson Davis, 350 ft. high, is being erected at Fairview, Kentucky. At the base of the monolithic concrete shaft the walls are 9 ft. 6 in., tapering to 2 ft. 4 in. at a point 315 ft. from the ground. The apex or cap is 35 ft. high. The foundation of the monument is formed of concrete from crushed granite. Inside there will be a steel stairway extending from floor to floor, the floors being of reinforced concrete.

Shrewsbury Town Council have considered the purchase of a site for a new Guild Hall for the borough in consequence of the Council having, by the terms of agreement with the County Council, to give up their share in the existing Shire Hall. They recommended that in offer of £6,000 be made for Newport House and grounds, which abut on the Severn. The house was built in the time of the Georges as the town house in Shrewsbury of the Earls of Bradford. If the offer is accepted the Finance Committee was authorised to proceed with the purchase.

PROFESSIONAL AND TRADE SOCIETIES.

DUNKELD CATHEDRAL.—At the annual meeting of the Scottish Ecclesiological Society last week, Professor Cooper, Moderator of the General Assembly of the Church of Scotland, said they would all be delighted with the gift of Dryburgh Abbey that Lord Glenconner had made to the nation. Melrose Abbey had also been gifted to the nation, and they had an indication of the coming gift of Dunkeld Cathedral. Melrose Abbey, he was afraid, was not likely to be restored in their day, and Dryburgh was beyond restoration, but the nave of Dunkeld ought certainly to be roofed. It only required a roof and floor and glass in the windows, and it ought again to be a church. It was not beautiful as it was. The tower was beautiful, with beautiful and very interesting details, but the whole church should be restored like its sister a little further south, Dunblane Cathedral, a very beautiful church, and one of the finest works of restoration that they had.

THE SURVEYORS' INSTITUTION.—The fiftieth Annual Report of the Surveyors' Institution submitted at the General Meeting on Monday last, records a loss of 67 members during the winter, the total membership now being 4,950. The war continues to affect the finances of the Institution, there having been a further drop of a little over £600 in the value of capital investments and a depreciation of £777 in income from subscriptions. Further concessions to candidates for examination have been made, but the number of those who have submitted themselves during the year is the smallest since 1882, being 32 for the Preliminary and 53 for the Professional. Since the last report 67 members have been killed in action or have died on military service, making a total, since the war began, of 218. The number of military distinctions obtained by members during the year must prove very satisfactory to the profession. Since the last report the following honours are known to have been obtained, and it is probable that, owing to the difficulty of keeping in touch with members under service conditions, the list is incomplete:—One C.M.G., one C.B. (Military), three D.S.O.'s, two Bars to M.C., forty-three M.C.'s; five Foreign Distinctions—L'Ordre de Leopold of Belgium, the Silver Medal of the Crown of Italy, and the Silver Cross of the Italian Order of St. Lawrence, and the Russian Orders of St. Anne and St. Stanislaus (Third Class). The following non-military honours awarded by His Majesty for war work of various kinds have also been obtained by members:—Companion of Honour, one; Knights, two; K.B.E.'s, two; C.B.E.'s, five; O.B.E.'s, seven; M.B.E.'s, six; C.V.O., one.

The death of Mr. Fredk. George Chincock, late of Waterloo Place, S.W., took place in his 78th year at his residence near Winchfield last Friday.

There is a considerable demand from the decorators of interiors for the fabrics woven by the soldiers on their hand looms in the hospitals of Montreal, and the men are earning substantial sums through their occupation.

LEGAL INTELLIGENCE.

LANDLORD'S LIABILITY TO PUT DRAINS IN ORDER.—*HENMAN v. BERLINER.*—On the 15th inst. Mr. Justice Sankey gave his reserved judgment in this case, in which the plaintiff, the lessor of a house at Hampstead under a lease given in 1909, sued the defendant under a covenant by which the lessee agreed to pay all outgoings and keep the premises in repair. The defendant denied liability. It appeared that in 1916 the local authority served the plaintiff with notice to repair, with which plaintiff complied, and now sought to recover cost from the defendant. The judge said the plaintiff sought to recover from the defendant £130 15s. When defendant took the house he stipulated that the drains should be in good order and that the plaintiff should repair them. Plaintiff never performed her contract to put the drains in order at the beginning of the lease as she ought to have done. She was seeking to make the defendant pay for work she ought to have done, and for which she was liable. There would be judgment for the defendant, with costs, and under the circumstances the defendant would not require rectification of his lease.

TIMBER USED AT HULL CORPORATION SCHOOLS.—This case, heard in Hull the week before last, was sent for reference to Mr. Pollock, who heard it on May 15. The plaintiff was Mr. Ed. Benjamin Burgess, carrying on business as E. B. Burgess and Co., of 61, Serpentine Road, who claimed £188 5s. 11d. as balance of account for work done and materials supplied. The defendant Sanderson was a sub-contractor for the work, the corporation contract being held by Mr. Levitt. The contract between plaintiff and defendant was to be carried out according to the terms of the corporation contract and to the satisfaction of the city architect, but defendant contended that the plaintiff had failed in this respect, particularly in relation to the laying of the flooring, and counterclaimed for a larger amount than the claim of the plaintiff. The Referee was of opinion that the contract had not been complied with in regard to the character of the timber used for the flooring, and thought the architect had expressed himself dissatisfied, and properly so, with the manner in which the work had been done. He gave judgment for the defendant on the claim and also on the counter-claim for £196 16s., with costs.

Lieutenant G. Macdonald, Seaforth, eldest son of Mr. Sinclair Macdonald, architect, Thurso, who was officially reported missing, has now been unofficially reported a prisoner of war in Germany, and well.

The Bournemouth Corporation has resolved to purchase the Hotel Mont Dore, at present occupied as an officers' military hospital, and adapting it for municipal offices. The buildings are offered at £35,000, the cost of adaptation is estimated at £10,000, and that of approaches at £2,000.

The body of Dr. David Hugh Pinsent, a civilian observer, son of Mr. and Mrs. Hume Pinsent, of Foxcombe Hill, near Oxford, the second victim of the aeroplane accident which occurred in West Surrey on the 8th inst., has been found in the Basingstoke Canal at Frimley. The body of the pilot, Lieutenant Lutyens, was discovered near the wreckage at the time of the accident, but despite a search no trace of Mr. Pinsent could be found until Tuesday night, May 14, when his body was recovered some distance from the spot where Lieutenant Lutyens was found.

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Seasoned

Hardwoods,

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WM. OLIVER & SONS, Ltd.,

120, Rumball Row, London, E.C.

TENDERS.

*.*Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender: it adds to the value of the information.

BRIGHTON.—For supply of Portland cement (One Year), for the town council:—

Saunders, J. J. G., and Sons, Ivory Place, Brighton, £2 15s. 1d. per ton (accepted); Freeman, G., Ltd., Frederick Place, Brighton, £2 15s. 1d.; Hall and Co., Western Road, Hove, £2 15s. 1d.

CHELTEMHAM.—For extending shedding at the Fruit Market, for the corporation:—
Collins and Godfrey £150 0 0
(Accepted.)

KETTERING.—For supply of circulating water-pipes, for the Electricity Committee:—
Brush Electrical Engineering Co.,
Loughborough £425 0 0
(Accepted.)

WOLVERHAMPTON.—For work and supplies, for the Electricity Committee. Accepted tenders:—
Mellows and Co., roof glazing for boiler-house, £266; Premier Cooler Co., cooling towers, £4,565; Ham, E. and S., cooling tower foundations, £959, brick retaining wall in connection with switchboard extensions, £100; Hopkinson, J., and Co., valves.

LIST OF TENDERS OPEN.

BUILDINGS.

June 3.—Erection of burr wall on Daisy Bank Road.—For the Luddenden Foot Urban District Council.—C. W. Moses, Clerk to the Council.

June 29.—For additions, alterations, renovations, and repairs, etc., at various council schools, Trowbridge, during the summer vacation, 1918, in accordance with plans and specifications prepared by the county surveyor.—For the Wilts County Council Education Committee.—Plans and specifications and forms of tender will be obtainable after May 30 upon written application to Mr. J. G. Powell, County Surveyor, Trowbridge. Sealed tenders, County Surveyor's Office.

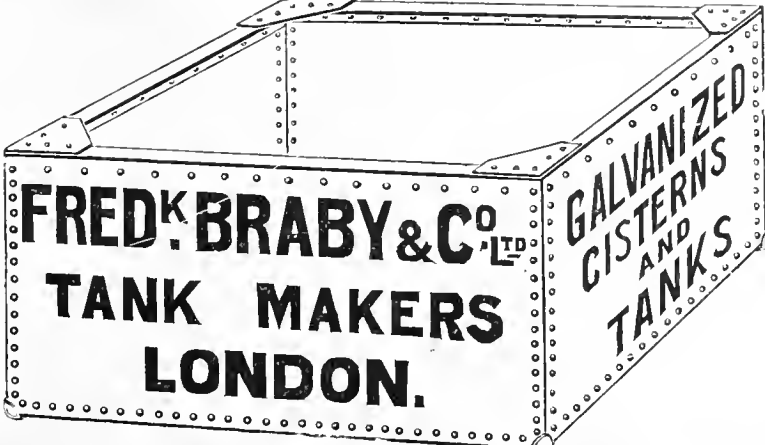
CLEANING BROOK.

June 1.—Tenders are invited by the Melverley Brook and District Drainage Committee, on behalf of the County of Salop Agricultural War Committee, for the cleaning of Melverley Brook, in sections, from its mouth on the Severn and through its tributaries via Farm Hall and Kinerley to Knockin, and via Llwyn-y-go to O-baston. Tracing, with levels, specifications, and form of contract can be seen at Mr. Lewis's, Meadow Farm, Melverley, to whom sealed tenders should be sent.

PAINTING.

June 4.—The Education Committee of the Edmon-ton Urban District Council invite estimates for painting, etc., at three schools in their area. Applications to T. Yarrow, Acting Secretary to the Committee, Brettenham Road, Upper Edmon-ton, N.18. Tenders by noon on June 4.

June 7.—Painting, colouring, linewashing, etc., at various schools in Wigan.—For the Education Department.—Specification and details from G. H. Mockler, Director of Education, Education Offices, King Street, Wigan.



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GALVANIZED CISTERNS AND TANKS.

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"SUN" BRAND**

**ALL OUR CISTERNS,
TANKS & CYLINDERS**

Our Office Table.

The need for unbreakable glass, particularly in raid areas, becomes so increasingly evident that many would be glad if some inventor would re-discover the secret formula for its manufacture which is said to have died with its inventor two thousand years ago. According to Dion Cassius and others, as a correspondent of the *Manchester Guardian* reminds us, a man presented himself before Tiberius to exhibit an unbreakable glass cup. He dashed it to the ground and otherwise ill-treated it, with no result save to dent it out of shape here and there, which injuries he remedied with a few blows from a hammer! Tiberius, however, saw not the marvel of the glass, but the probability of its adverse effect on the value of precious metals. "Does anyone else know of this secret?" he demanded. "No," was the inventor's answer. And the Emperor ordered his immediate execution.

Any of our friends wanting carbon papers, loose papers, typewriting papers, dating papers, or the thousand and one handy helps to labour saving in these days of staff shortage, will get them better and cheaper than anywhere else at our printers, the St. Clements Press, Ltd., which with its twenty-four hours a day service and the best-equipped printing plant in London, is the never-failing helper of all wanting quick and accurate copies of specifications, contracts, circulars, auctioneers' catalogues, and all kinds of stationery, etc.

It is interesting (remarks *Timber*) to note the views taken in Sweden regarding the recent Order by which the Government took control of all timber imports. Some papers speak of the control as an unfriendly act to Sweden and as designed entirely for getting hold of Swedish wood on cheap terms. They point out that Great Britain has secured the use of a part of the tonnage on which Sweden used to rely for exporting her sawn goods, and that by taking a monopoly of the wood trade the Government will be able to force down prices. The majority, however, look at the matter in what we consider a more reasonable light, as merely an extension of the well-known policy of the British Government to bring all the resources and supplies in the country under the control of the State. But the shippers of sawn goods see at once that their position will be critical unless they are united, and a strong movement is taking place among Swedish exporters towards a policy of amalgamation.

Rome is to be transformed into a maritime city by the building of a port at Ostia, at the mouth of the Tiber.

The Kendal T.C. has passed plans for additions to the Globe Inn, Market Place. The architect is Mr. J. Hutton.

Mr. Frederick B. Ing, who was in the service of the Newcastle-on-Tyne Town Council for over thirty years as an architect and surveyor in the city engineer's department, died on Monday week, aged fifty-six.

Mr. James Pilkington, a well-known builder, of Rainford, who had constructed churches and large public buildings, including the St. Helens Hippodrome, died on the 17th inst. at his residence, the Woodlands, Rainford.

Mr. William Walters Howard, of Mill Hill, N.W., late of the firm of W. W. Howard Brothers and Co., Trinity Square, E.C., timber merchants, has left £20,000 for wounded soldiers, and a total of £128,833.

A bronze statue of King Edward VII., the work of Mr. Herbert Hampton, which was subscribed for by members of the Hearts of Oak Benefit Society in commemoration of the opening of the society's central building in the Euston Road by his late Majesty and Queen Alexandra in May, 1906, was unveiled last Thursday.

In the seventh line of the fourth paragraph on p. 360 of our issue of May 1 the word "window" should, of course, have been printed "widow." Our only abject apology is that these things will happen even in the best regulated papers. Not a few will call to mind the converse of the mistake in an advertisement in a well-known daily of some rooms to let to view the Prince of Wales and his bride's procession on March 7, 1863.

LATEST PRICES.

N.B.—All prices must be regarded as merely approximate for the present, as our usual sources of information are in many cases failing us.

TIMBER.

Owing to stoppage of supplies all prices have advanced considerably, and are controlled by the Director of Materials.

IRON.

Rolled Steel Joists, English.....
Compound Girders, Ordinary Sections.....
Compound Stanchions.....
Angles, Tees, Channels and Flitch Plates.....
Wrought-Iron Girder Plates.....
Steel Girder Plates.....
Steel Sheets (Single or Double).....
Steel Strip.....
Basic Bars.....
Mild Steel Bars.....
Steel Bars, Ferro-Concrete.....
Quality (basis price)

Prices controlled by Ministry of Munitions.

OTHER METALS.

A licence must be obtained from the Director of Materials (A. M. 2(E)), Hotel Victoria, Northumberland Avenue, S.W., and should accompany orders for quantities over 1 cwt.

	Per ton.	Per ton.
Lead Water Pipe, Town.....	£39 0 0 to	—
Country.....	40 0 0	—
" Barral Pipe, Town.....	40 0 0	—
Country.....	41 0 0	—
Lead Pipe, tinned inside, Town.....	41 0 0	—
Country.....	42 0 0	—
Lead Pipe, tinned inside and outside.....	43 10 0	—
Country.....	44 10 0	—
Composition Gas-Pipe, Town.....	42 0 0	—
Country.....	43 0 0	—
Lead Soil-pipe (up to 4 in.), Town.....	42 0 0	—
Country.....	43 0 0	—
" (Over 4 in. £1 per ton extra.)	—	—
Lead, Common Brands.....	26 0 0	—
Lead, 4lb. sheet, English.....	38 10 0	—
Lead Shot, in 28lb. bags.....	—	—
Copper Sheets, Sheathing & Rods.....	168 0 0	170 0 0
Copper, British Oaks and Ingot.....	147 0 0	150 0 0
Tin, English Ingots.....	395 0 0	—
Do., Bars.....	186 10 0	187 10 0
Pig Lead, in lwt. Pigs, Town.....	33 12 6	34 12 0
Sheet Lead, Town.....	38 10 0	—
Country.....	39 10 0	—
Genuine White Lead.....	54 0 0	—
Refined Red Lead.....	42 0 0	—
Sheet Zinc.....	138 0 0	—
Spelter.....	93 0 0	110 0 0
Old Lead, against account.....	25 0 0	—
Tin.....	19 15 0	—
Cut nails (per cwt. basis, ordinary brand).....	1 11 0	—
* For 5 cwt. lots and upwards.		

BRICKS.

Sale, Purchase for use, of all Bricks exceeding 20,000 in number is now forbidden by the Minister of Munitions except by license of the Controller of Bricks, to whom all applications for permits must be made at Whitehall Place, S.W., marked "Building Brick Permit."

(All prices net.)

First Hard Stocks.....	24 0 0	per 1,000 alongside, in
Second Hard Stocks.....	3 15 0	" " " " " " " "
Third Hard Stocks.....	1 14 0	" " " " " " " "
Mild Stocks.....	2 2 0	" " " " " " " "
Picked Stocks for Facings.....	3 5 0	" " " " " " " "
Flattons.....	2 10 0	" " " " " " " "
Best Fareham Red.....	4 0 0	" " " " " " " "
Best Red Pressed Ruahon Facing.....	5 15 0	" " " " " " " "
Best Blue Pressed Staffordshire.....	6 5 0	" " " " " " " "
Ditto Bullnose.....	6 10 0	" " " " " " " "

WHITE AND COLOURED GLAZED BRICKS

WHITE IVORY AND SALT GLAZED (PER 1,000).

	£ s. d.
Stretchers.....	14 17 6
Headers.....	14 7 6
Quoins and Bullnose.....	18 7 6

Second quality £1 per 1,000 less.

OTHER COLOURS.

Best.	£ s. d.	Seconds.	£ s. d.
20 7 6	15 7 6
19 17 6	14 17 6
23 17 6	18 17 6

MOTTLED BRICKS.

Stretchers and headers, 8d. each (plus 25%).
Internal and external angles, 1s. 2d each (plus 25%).
Majolica and soft glazed stretchers and headers, £25 7s. 6d. per 1,000.
Majolica and soft glazed Quoins and Bullnose, £30 s. 6d. per 1,000.

SAND AND BALLAST.

	£ s. d.
Thames Sand.....	12 6 per yard, delivered.
" Ballast.....	12 6 " " "
Pit Sand.....	12 6 " " "
Best Washed Sand.....	14 0 " " "

CEMENT AND LIME.

	£ s. d.	£ s. d.	Per ton.
Best Portland Cement.....	55 0 0	to 58 0 0	delivered.
Ground Blue Liaa Lime.....	33 6	at depot.	
Exclusive of charge for sacks.			
	£ s. d.		
Grey Stone Lime.....	47 0	per ton	
Stourbridge Fireclay in sacks.....	37s. 6d.	per ton at depot.	

STONE.*

	£ s. d.
Yellow Magnesian, in blocks... per foot cube	0 3 3
Red Mansfield, ditto.....	0 2 9
White Mansfield, ditto.....	0 2 9
Red Corsehill, ditto.....	0 2 6
Darley Dale, ditto.....	0 2 5
Grimsbush ditto.....	0 2 2
Cloasburn Red Freestone, ditto per foot cube	0 2 2
Ancester, ditto.....	0 2 0
Beer Stone, delivered on rail at Seaton Station.....	0 1 1
Ditto, delivered at Nine Elms Station.....	0 1 7½
Chilmark, ditto (in truck at Nine Elms).....	0 1 10¼
Hard York, ditto.....	0 3 10
Do. do. 6 in. sawn both sides, landings, random sizes..... per foot cube	0 3 3
Hard York, 3 in. slab sawn two sides, random sizes..... per foot cube	0 1 3

OILS.

Rapeseed, English pale, per tun	£28 15 0 to £29 5 0
Ditto, brown.....	26 15 0 " 27 5 0
Cottonseed, refined.....	29 0 0 " 30 0 0
Olive, Spanish.....	39 10 0 " 40 0 0
Seal, pale.....	21 0 0 " 21 10 0
Coconut, Cochinchina.....	46 0 0 " 46 10 0
Ditto, Ceylon.....	42 10 0 " 43 0 0
Ditto, Mauritius.....	42 10 0 " 43 0 0
Palm, Lagos.....	32 5 0 " 33 5 0
Ditto, Nut Kernel.....	35 0 0 " 35 10 0
Olefin.....	17 5 0 " 19 5 0
Sperm.....	30 0 0 " 31 0 0
Linseed Oil..... per gal.	0 6 1 Controlled.
Baltic Oil.....	0 11 3 " "
Turpentine.....	0 11 3 " "
Fatty (Genuine Linseed Oil)..... per cwt.	0 17 6 " "

TILES.

	a. d.	Divrd. at
Plain red roofing tiles.....	62 6	per 1,000 ry. en.
Hip and Valley tiles.....	5s. 10	per doz.
Brossley tiles.....	75 0	per 1,000
Ruabon red, brown, or brindled ditto (Edwards).....	77 6	" "
Ornamental ditto.....	80 0	" "
Staffordshire (Hanley) Reds or brindled tiles.....	75 6	" "
Hand-made sand-faced.....	80 0	" "
Hip tiles.....	5s. to 9 0	per doz.
Valley tiles.....	5s. to 9 0	" "

SLATES.

No reliable quotations for slates seem obtainable at present, and architects and builders will do well to specify and use some of the excellent substitutes which have found favour of late, partly as a consequence of the unsatisfactory condition of the slate industry, as well as the result of their greater durability and other commendatory qualities. Prices of some of the best of these are as follows:—

ASBESTOS ROOFING TILES, supplied by the British Uraltite Co., Ltd., 85, Gresham Street, E.C. From £4 14s. per 1,000, 9 in. by 9 in. 400 tiles per square of roof covered, price per square, 37s. 8d., to £33 8s. per 1,000, 24 in. by 24 in., 34 tiles per square of roof covered, price per square, 32s. 3d.

ALLIGATOR ROOFING, supplied by the British Roofing Co., Ltd., 11, John St., Crutched Friars, E.C., in rolls of 216 feet super, with the necessary mastic and nails for fixing: 1 ply, 19s. per roll; 2 ply, 25s. per roll; 3 ply, 33s. per roll.

"POLITE." Made by Bell's Asbestos Co., Ltd., Southwark Street, S.E. Standard tiles in red, blue, and grey colours, carriage paid to nearest railway station, 15½ by 15½—Red, £14 3s. 8d. per 1,000; grey or blue, £12 15s. per 1,000. Approximate prices per square, fixed complete to roof-boards or battens:—Red, £1 10s. 9d.; grey or blue, £1 8s. 9d. At present above prices are subject to a premium of 17½ to 33½ per cent. in consequence of rise in prices of material and other war exigencies.

ROK ROOFING. Made by D. Anderson and Son, Ltd., Lagan Felt Works, Belfast, and Roach Road Works, Old Ford, London, E. Prices and particulars in new booklet "V." to be had on application.

GLASS (IN CRATES).

English Sheet Glass 15 oz.	21 oz.	26 oz.	32 oz.
Fourth.....	7½d.	8½d.	9½d.
Third.....	7½d.	8½d.	9½d.
Flint Sheet.....	7½d.	8½d.	9½d.
Hartley's English Rolled Plate.....	4½d.	5½d.	6½d.
White.....	6½d.	7½d.	8½d.
Tinted.....	6½d.	7½d.	8½d.
Figured Rolled.....	6½d.	7½d.	8½d.
Repoussé.....	6½d.	7½d.	8½d.
Roll Sheet.....	6½d.	7½d.	8½d.
Stippled.....	6½d.	7½d.	8½d.

TO CORRESPONDENTS.

RECEIVED.—S. F. Co., Ltd.—G. and Son—W. L.—Van A. and Co.—M. and Co.—I. C. S.—B. of B.—N. A. C.

Y. C.—No.

MAJOR C.—Please send.

ESTIMATOR.—Thanks. No space to spare.

ASSISTANT.—Letters duplicated to other journals waste space and are not desired.

Very satisfactory results have recently been obtained with concrete roads reinforced with B.R.C. fabric in bad ground and carrying heavy traffic.

THE BUILDING NEWS

AND ENGINEERING JOURNAL.

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Currente Calamo.

Among the few Birthday honours that have come our way we are glad to see that of Sir Frank Baines, C.B.E., M.V.O., the principal architect of the Office of Works, whose work has extended itself enormously in connection with other Departments of National Service, and most markedly and successfully in the case of a remarkable building in connection with one most important branch, about which we are not at liberty to say more now, but which we hope one of these days, by Sir Frank Baines's kindly courtesy, to which we have been so often indebted, to describe and illustrate. Another recipient whom all will heartily congratulate is Sir Archibald Dawson, the head of the old-established and leading firm of manufacturers of the simplest and safest system of fire-proof floor construction, of Battersea, Cardiff, and Newcastle-on-Tyne, and for ten years Mayor of Wandsworth, where his local and patriotic services in connection with the war have been so wisely and energetically rendered. Similar unremitting exertions have well won the same recognition for Sir Thomas O. Callender, J.P., the managing director of Callender's Cable and Construction Company, whose works at Erith and their remarkable extensions and output of war material must by this time in no small degree rival Krupps, and whose generous participation in all calculated to benefit the workers of the wide district of which they are the centre, seconded by the tactful, kindly co-operation of Lady Callender, will evoke hundreds of echoes of our congratulations. As most readers know, Sir Thomas Callender's father was the earliest pioneer of the use of asphalt for road construction in London; and, in many ways, the company is still more or less connected with the industry.

Really very little was done last Wednesday and Thursday at the inaugural meeting of the Joint Industrial Council for the Building Industry, which we report in this issue, beyond the election of officials and committees, and the levy of a £10 call on all the Operative Associations to provide administrative funds and a sum equal to that thus produced in the employers'. That, of course, is the first and usual result of all our present efforts

to achieve "high ideals," about which Mr. Hayes Fisher talked grandiosely, followed by one of Dr. Addison's usual windy perorations. Mr. Roberts' speech was a more practical one, and we sincerely trust the more prosaic but more needful objects he detailed may be realised. As far as "ideals" go, Mr. T. Foster, of the N.W. Federation of Building Trade Employers, talked some sound sense, and Mr. J. Jones, who followed him, uttered a few words of homely truth, remarking that neither employed nor employer were masters of the situation. The employer had to go to his banker, and it was no use talking about the beauties of a new heaven and a new earth to the man who lent one money. Nor would many people be satisfied if they were told there was not the same percentage of profit as before, but that better buildings were being put up. Candidly, we doubt whether the building trade parliaments will do much more than open fresh by-roads for the passage of windbags to Parliament and secure positions as "Ministers" of this, that, and the other new department, which does little but add to the taxes.

From every quarter, the convictions of those who still know anything about the matter, expressions continue to come that the one thing—next, of course, to leave to build at all—which will help the building trades back to prosperity and meet the shortage of houses, is the repeal of the Increment, Undeveloped Land, and Reversion Duties of Mr. Lloyd George's Finance Act of 1910. It is most extraordinary that any Chancellor of the Exchequer can fail to see that! Here is Mr. Bonar Law resorting to all sorts of expedients to raise the wind, and throwing money away in the collection of these taxes, the yield of which—£135,000 this year—does not pay the cost of collection! It is difficult to conceive the ignorance that could have suggested the imposition of burdens at one and the same time more pernicious to the great industry affected, and less profitable to the State. Among the latest expert criticisms of this senseless policy we are glad to notice that of Mr. John Walker, the senior partner of the well-known Glasgow firm of estate agents, who declares that private enterprise in house-building has been killed by legislation, and prevented from doing all and more for the housing of the industrial

classes than all the municipal "enterprise" the President of the Local Government Board talks about. We do hope that the House of Commons will accept Colonel Royd's amendment to the Finance Bill, on which we commented on this page a fortnight ago, and we again beg everyone to strengthen his hands by every possible means.

Tenants of small houses and of tenements are now amply protected by law for the duration of the war against any unfair rising of their rent or any sharp proceedings in ejectment. But as these workers are now making more money than they ever did before, and are, in fact, living very well upon the war, it is only right that they should punctually pay their reasonable rents and give up possession of the premises when they cannot, or will not, do so. After all, a landlord has a claim for the house or rooms he lets out, and this is useless unless it can be cheaply and quickly enforced. The recent case of "Artizans", Labourers', and General Dwellings Company, Limited, v. Clifford," is therefore of some interest nowadays to both owners and occupiers. It seems to have been a very small and simple matter; but there was a lot of legal argument, and it went through four Courts before it was finished. However, the real point can be shortly stated, and the Court of Appeal ended where the County Court judge had begun. The plaintiffs had let a tenement to the defendant early in 1915, as a weekly tenant at 2s. 6d. rent. Later in the year he went into the Army, and his wife remained on, sub-letting part of the premises at 5s. a week. But although she also had separation allowance for herself and one child, she fell into arrears with her rent, and when three months was overdue plaintiffs served a valid notice to quit; and then, as she would not go, a summons in ejectment. The man being away, the summons could not be served, and at the hearing the County Court judge substituted the wife as defendant, and made an ejectment order against her. From this there was an appeal to Mr. Justice Low, who held that the County Court judge had no jurisdiction to do what he did. This, in turn, was reversed by a Divisional Court, and now the Court of Appeal, by confirming that ruling, comes back to the County Court view. Under the County

Court Act, 1888, Section 138, a landlord who has served a valid notice to quit can proceed by ejectment against the tenant or, at his option, "any person holding or claiming by, through, or under him." The lowest and the highest of these Courts held that the wife was clearly holding this tenement through or under her husband the tenant, and so the order in ejectment against her was legal and effective.

THE NEW ENGLISH ART CLUB.

The fifty-ninth exhibition of modern pictures by the New English Art Club is by no means an uninteresting one. There are 245 exhibits—a few very "modern," but a very respectable majority quite up to the average of better times. We miss some of the better-known members. There is nothing from Mr. Max Beerbohm, nor Mr. William Orpen, nor Mr. McEvoy, nor Mr. Derwent Lees, which is as regrettable as it is probably unavoidable; and perhaps the etchings and water-colours are hardly up to the usual mark, but the club, as a whole, may congratulate itself on an exhibition quite equal to the level of the season.

Professor W. Rothenstein has only one picture, "Three Children Singing" (90), a well-rendered group, and really indicative of its title—that is to say, the children really are singing and not merely opening their mouths. Mr. William Shackleton sends five, the best being "Old Age" (83); the others are "Golden Youth" (106), "Moonlight Idyll" (195), "Singing the Fowl" (197), and "Autumn in the Beech Woods" (217), an effective study of effects suggested by the title. Mr. P. Wilson Steer has four, including a good portrait of "Mrs. Joseph Holbrooke" (101), a pleasing view of "Bosham" (133), a very good "Old Hulk" (135), and a capital view of "Harwich" (137). Mr. Muirhead Bone contributes some good war pictures, "An Officers' Mess in a French Chateau" (9), "Libons, in the Santerre" (12), "The Pit, Moquet Farm, Somme" (24), "Ruined Athletics on the Somme" (30), and a portrait of "M. Jean Febranc," the correspondent of *Le Temps* (62). Mr. C. W. Nevinson's "Squalor" (64) is effective, but much more so his "The Triumph of Man" (107), with its shattered wood dotted with the crosses that mark the graves of the victims of the grim struggle of which it has been the ghastly scene. In more commonplace contrast, "The Canal at Camden Town" (4) will, nevertheless, be recognised as a not uninteresting bit of London. Mr. A. E. John's "Figures on the Beach" (13) and "A Dancer" (43) are both good.

Mr. David Muirhead has six subjects: "Evening on the River" (114) and "In Swaledale, Yorkshire" (118) being the most attractive. Professor Henry Tonks is well to the fore with his "Family Group" (126) and good portraits of "Lord and Lady Northbourne" (136). Of his five hung, "The Manicure" (157) is not the least successful. Mr. A. H. R. Thornton sends a suggestive rendering of "The Aeroplane Factory" (185). Miss Ethel Walker's best of her five is her very good portrait of "The Hon. Mrs. Adams" (74); her others are a "Portrait of My Step-mother" (85), a decorative subject, "Lilith" (100), "On Marche, Honfleur" (169), and a somewhat less satisfactory "Woman Holding a Flower" (171). Mr. John Wheatley's "The Elder" (99) is one of the best things in the exhibition. His "Edith" (153) is hardly so attractive, but "The Baby's Bath" (160) is excellent. Mr. C. Maresco

Pearce sends a lively view of "Piccadilly Circus, 1914" (78), and a well-done "Motor Bus, 1913" (80). Mr. Lucien Pisarro's "Broad Mead, East Knoyle" (73), is good, and so is his "View of the Old Town, Hastings" (86). Mr. C. J. Holmes has a noticeable rendering of an unusually vivid "Double Rainbow, Whinfell" (89); of the rest of his eight hung, "On the Penrith Road" (138) and "Cottages, Middleton, Teesdale" (140), are pleasant bits of local scenery. Mr. Fairlie Harmar's "The Model Cottages" (94) tells its own story well, and his group of "Cottages at Amfort" (95) is good. Mr. Jacques Raverat's "Judas and the Priests" (70) is the best of the three he sends, though the figures are of somewhat modern type. Mr. A. W. Rich has a good view of "Trinity College, Cambridge" (111), and another of "Jesus College, Cambridge" (202). A welcome bit of old "Church Street, Stoke Newington" (216), by Mr. Walter Taylor, shows one of the few old houses left there.

EASTBURY MANOR HOUSE.

In our issues of April 30 and June 4, 1915, we published a series of elevations, plans, and details by Mr. Herbert V. C. Curtis, with a short description of Eastbury Manor House, Essex, situated in the parish of Barking, on the road to Dagenham, through Rippleside, which has practically remained untouched by the restorer, and, at least externally, shows the craftsmanship of its sixteenth century builder. It is good to know that the present owner is in sympathy with the scheme which has been formulated for the repair of the building and its preservation in trust for the nation. He has offered very generous terms for its purchase, and the Society for the Preservation of Ancient Buildings has undertaken to raise the money in order that the house and grounds may be conveyed to the National Trust for Places of Historic Interest or National Beauty. Some £3,000 will be needed to effect this, and we trust the opportunity will not be lost of preserving this very complete example of a Tudor manor house. The London Survey Committee have done their best to help the cause fund by devoting their Eleventh Monograph to a collection of illustrations of the house, to which Mr. Philip Norman contributes a preface, and some historical notes. The volume is beautifully printed by Messrs. Eyre and Spottiswoode, and the Committee has been fortunate enough to obtain a complete set of drawings of the house by Mr. Herbert V. C. Curtis, which, supplemented as they are by other drawings and photographs, form a valuable and most interesting record of Eastbury, and cannot fail to help forward the object the Committee have in view.

The date of the house, or who built it, is not known. Several writers have ascribed it to Clement Sisley or his family, who held the property from 1557 to 1607; and, according to Black, there is a tradition of the date 1572 having been cut in brickwork on some part of the building, destroyed many years ago by one who dwelt there. Others give 1573 as the date, but the building itself gives little evidence of Elizabethan design, while, on the other hand, there is a striking absence of Renaissance details. The finials to the gables, the moulded chimney stacks, and other details all show late Gothic or Tudor forms. Possibly the house may have been built before the dissolution of Barking Abbey, and, if so, and it should prove to be the work of an owner after the Reformation, it shows an unusual conservatism and adherence to traditional

features. The plan of the house is in form like the letter H, the main block lying east and west. There are three storeys, with a cellar under the west wing. The walls are of red brick or English bond, and of fine material and workmanship. The courtyard to the south presents the most picturesque of all the views of the house, the gables, lofty chimney-stacks, and the remaining staircase turret forming a skyline of unusual beauty. The original internal arrangements have been considerably altered, and practically all the fittings have disappeared. The first floor is now inhabited only in the west wing, which has been modernised throughout. The second floor is now open to the roof, the plaster ceilings having been removed and the floor boards taken from the joists. The timbers are in a fine state of preservation, and the roof presents a picturesque appearance with its queen-posts, tie-beams and rafters all revealed. The walls of the east wing of this floor still exhibit traces of painting of figures in costume, some of which are illustrated.

Traditionally, Eastbury has been connected with the Gunpowder Plot which occurred during its possession by the Sisley family. The story was, either, as some said, that the conspirators held their meetings there, or according to others that it was the residence of Lord Montague, and that it was there he received the letter that led to the discovery of the plot. Another variation was that from the summit of the tower the conspirators hoped to see the flash of the explosion and hear the report announcing the accomplishment of their fell purpose. There is really no other foundation for the story than the fact that a son of Lord Montague was baptised at Barking in 1607, while his own evidence at the time was that it was at his own house at Hoxton that the letter was put into his hands by his footman "whom he had sent on an errand over the street."

BUILDING TRADES' PARLIAMENT.

INAUGURAL MEETING.

The inaugural meeting of the Industrial Council for the Building Industry was held on Wednesday and Thursday, May 29 and 30, at the Central Hall, Westminster, S.W. The earlier part of the proceedings of the first day were presided over by Sir David Shackleton, K.C.B. Afterwards Mr. J. Storrs was elected to the position, Mr. A. G. Cameron being elected vice-chairman. Mr. Storrs comes from Stalybridge. He is an employer and is chairman of the National Board of Conciliation. Mr. Cameron is a workman, is an assistant-secretary of the Amalgamated Society of Carpenters and Joiners, and comes from Manchester. At the same time as these elections were made Messrs. A. G. White and W. Bradshaw were confirmed in the position of joint secretaries, and Mr. J. Batchelor, of the Operative Bricklayers' Society, was appointed treasurer.

The principal items in the agenda were the consideration of memoranda dealing, one, with labour resettlement after the war; another, with the reconstruction problem—both in relation to the Building Trades' Joint Industrial Council—and a third dealing with the constitution of the Council. The Ministers in question were the Right Hon. W. Hayes Fisher, M.P., President of the Local Government Board, the Right Hon. Dr. Addison, M.P., Minister of Reconstruction, and the Right Hon. G. H. Roberts, M.P., Minister of Labour.

Mr. Hayes Fisher said they were assembled to christen one of the numerous children of the Whitley Report. He might regard himself as the godfather. One of the conclusions to which the report came was that better relations ought to exist between capital and labour, and that, in order to bring those better relations about, there should be an

organisation in each great industry of employers and employed to take a regular and systematic interest in all that concerned the welfare of the industry. The functions of the present Building Trades' Council were not yet established, but it might be asked to consider such things as the regulation of wages, or, to take another important question, the technical portion of building—improvements that might be made—and so on. Dr. Addison and himself both had committees at work in connection with their departments which would have gladly consulted such a body as this Council had it existed. As to unemployment, he did not think there would be any for years after the war; but what the Minister for Labour would have to consider would be priority of labour, for we should find ourselves very short of men capable of doing the higher work in building. There would be a tremendous shortage not only of working-class dwellings, but of buildings necessary for every purpose, and the problem would be as to what buildings should be undertaken first. This was a sample of the questions which would be before the Council when constituted. The Minister of Labour desired this Council to become a Parliament of the Building Industry. The Government wished it to be the official, standing, consultative committee of the Government on all questions in which the industry was concerned, and would be glad of the opportunity of taking the advice of the committee. So far as concerned the housing of the working classes, it was admitted on all sides that while there was a shortage before the war, there must be an enormously increased shortage after the war. At least 300,000 buildings would be required, and the aim of his and Dr. Addison's departments was to see that those houses were built within twelve months of the declaration of peace. He was told there would not be material or labour for this, but that was the ideal. The Government programme involved a partnership between the State and local authorities. The difficulties were enormous, and private builders were not likely to be tempted on to the ground. The Government proposed that the local authority should make its plans and estimate the number of houses that would certainly be required after the war, with the cost of putting up those houses, and the rent it would get for them. There would undoubtedly be a deficit, at any rate for the first few years; and the Government offered to bear three-quarters of that deficit for seven years, the other quarter falling on the ratepayers. This, it was thought, would not involve more than a penny rate; and it was open to the Local Government Board to propose that the loss to the ratepayers should be limited to that amount. It was a very good bargain for the local authorities, and there was every sign of their coming forward to take up the proposed plan. Local authorities were to be preferred to the State as the actual builders of houses, because they knew all about such matters as tramways, school accommodation, and water supply; and they also had the means of knowing what rent could be obtained. The State had not these facilities. The plan proposed was admittedly full of difficulties, but it had less difficulties than any other that he had seen. The Government hoped to get advice, instructions, and assistance from such bodies as the one now being set up. Plans by which public utility companies or private builders could come into the field were not put aside; but the building of these houses would entail a loss, and the difficulty was to propound a plan, acceptable to the House of Commons, by which a subsidy would be given to a single builder or group of builders.

Dr. Addison said the meeting would discuss reconstruction questions, and papers would be presented to it outlining some of the problems on which the Government wanted advice. A first difficulty after the war in the way of restarting many industries was the supply of materials, and, in respect of such materials as timber, it was not necessary for him to say how important it was that such provision should be made well in advance. The survey of brickyards showed that the difficulty there was that a great

many of these had been occupied for storage or other purposes, or had been closed down. Arrangements were being made to secure that these should be restarted when the time arrived. Priority questions arose because of the shortage of raw material and of tonnage to bring it to this country, and, in some trades, because of the lack of machinery. The Government needed advice in determining the order of importance which it must attach to the requirements of the different trades for the supply of materials, machinery, etc.; and as soon as there was a responsible body appointed by an industry the Government would put upon the shoulders of that organisation all the responsibility it could. The easiest and best way of passing from the system of centralised Government control to the ultimate conditions of trade in peace time was to pass on to each industry as many responsibilities as possible in connection with the conduct of that industry.

Mr. G. H. Roberts said the Government did not desire that the Whitley report should be construed as an Act of Parliament. It was only a suggestion or outline, and was capable of almost indefinite modification. Its whole scheme was sufficiently elastic to allow of provision being made for the peculiarities of districts or the exceptional circumstances of any trade.

The first business of the afternoon was the election of the officers above mentioned, after which came the consideration of the memorandum by the Ministry of Labour on labour resettlement.

Mr. E. H. Butler (from the Ministry of Labour) in presenting and explaining this memorandum to the meeting, said the machinery outlined in it had been devised with a view to reconciling and co-ordinating the interests of industries and localities. At present there was an advisory committee for the building trade for considering the question of the training of disabled soldiers, and that committee had issued a report. It had been found that, in addition to the central body dealing with the industry as a whole, local bodies were required; and local technical advisory committees were being set up in a number of centres where the building trade was strongly represented, in order to deal with disabled men. It was a question, however, whether the present machinery would be sufficient to deal with the very much larger number of disabled men who would have to be dealt with after the war. At present the problem was a simple one. The root principle of the memorandum was that the man who had a job should have priority of release in order that those should be brought home first for whom there would be no difficulty in finding employment. It was further proposed to divide the industries of the country into groups in order of priority, and that such priority should be determined by the various considerations affecting the state of trade at the time and the needs of the country as a whole. Obviously some industries were more important than others, and, further, it was impossible to say which industries would be in the best position for finding raw materials, etc. In order that priority should be determined with the closest possible knowledge it was important that the Government should be in the closest possible touch with the industry, and the council was asked, therefore, to appoint a committee to deal with the subject. Information would be needed with regard to the following points:—

1. The total number of men in the building industry who have enlisted.
2. The number of substitutes who have come into the building industry during the war.
3. The total number of men who have either been killed or so disabled as to be unable to follow their former occupations.
4. The number of persons likely to be reinstated by their old employers.
5. The number of fresh persons likely to be needed in the building industry.
6. The extent, if any, of the displacement of substitutes.
7. The volume of building which has been postponed during the war, and which is likely to be put in hand to meet industrial needs.
8. The general position of the building in-

dustry after the war, so far as can be ascertained at present, including suggestions as to the measures to facilitate the earliest possible restoration of the industry to peace conditions.

9. Any suggestions as to dealing with labour resettlement in view of conditions peculiar to the building industry, including suggestions as to any transfer that may be needed of men in the building industry to places where they are most needed.

The discussion on the memorandum was in private.

The subsequent business of the afternoon was to appoint a committee to select names to be submitted for the Resettlement Committee.

THURSDAY'S MEETING.

When the conference assembled next morning the first business was that Mr. A. G. White read the report of the Selection Committee. This expressed the opinion that one administrative committee would be sufficient to perform the functions of Resettlement and Reconstruction Committees, could also draft a constitution for the Joint Industrial Council, and could receive suggestions for discussion at the next meeting. The report recommended that this committee should consist of ten employers and ten operatives plus the officers, ex-officio, and that, in order to make the number of officers equally representative of operatives and employers, joint treasurers should be appointed—Mr. E. J. Brown being appointed as the employers' treasurer.

This part of the report was rejected after some discussion.

Another point in the report which led to a good deal of debate was a proposal that Scotland should have special representation on the committee. On this point the committee's recommendation was upheld.

With regard to reconstruction and resettlement, the report recommended that the appointment of the Labour Resettlement Committee and the Reconstruction Committee be left to the Administrative Committee, to be made from nominations to be invited from the National Organisations adherent to the Joint Building Trades Industrial Council—that the total number should be twenty-two, with power to co-opt representatives from any branch trade not specifically represented whenever necessary; and, that when these committees had been set up, the committees set up by Government departments should be withdrawn. A method of selecting committeemen from the various organisations was suggested, but this, after a good deal of discussion, was rejected, and the committee was chosen by direct vote of the meeting. The following were appointed:—T. Barron (A.S.C. and J.), A. McDougall (O.B.S.), J. H. Edmiston (Plumbers' Society), A. Gardner (Scottish Painters), W. Williams (Masons), R. Wilson (Operative Slaters), T. Otley (Plasterers), W. Cross (Scottish Slaters), P. Flanagan (Builders' Labourers), M. Piper (Painters), J. P. Cox (President of the Federation of Sub-Contractors), S. Easton (N. Counties Federation), T. Foster (N. Western Federation), E. J. Brown (Institute of Builders), E. Bruce (Scottish Building Trades Employers' Federation), T. Graham (Scottish Federation), E. Smethurst (N. Western Federation), H. Willcock (President National Federation, B.T. Employers and I.O.B.), J. Cantrell (National Association of Master Painters), and J. Allinson (Institute of Plumbers).

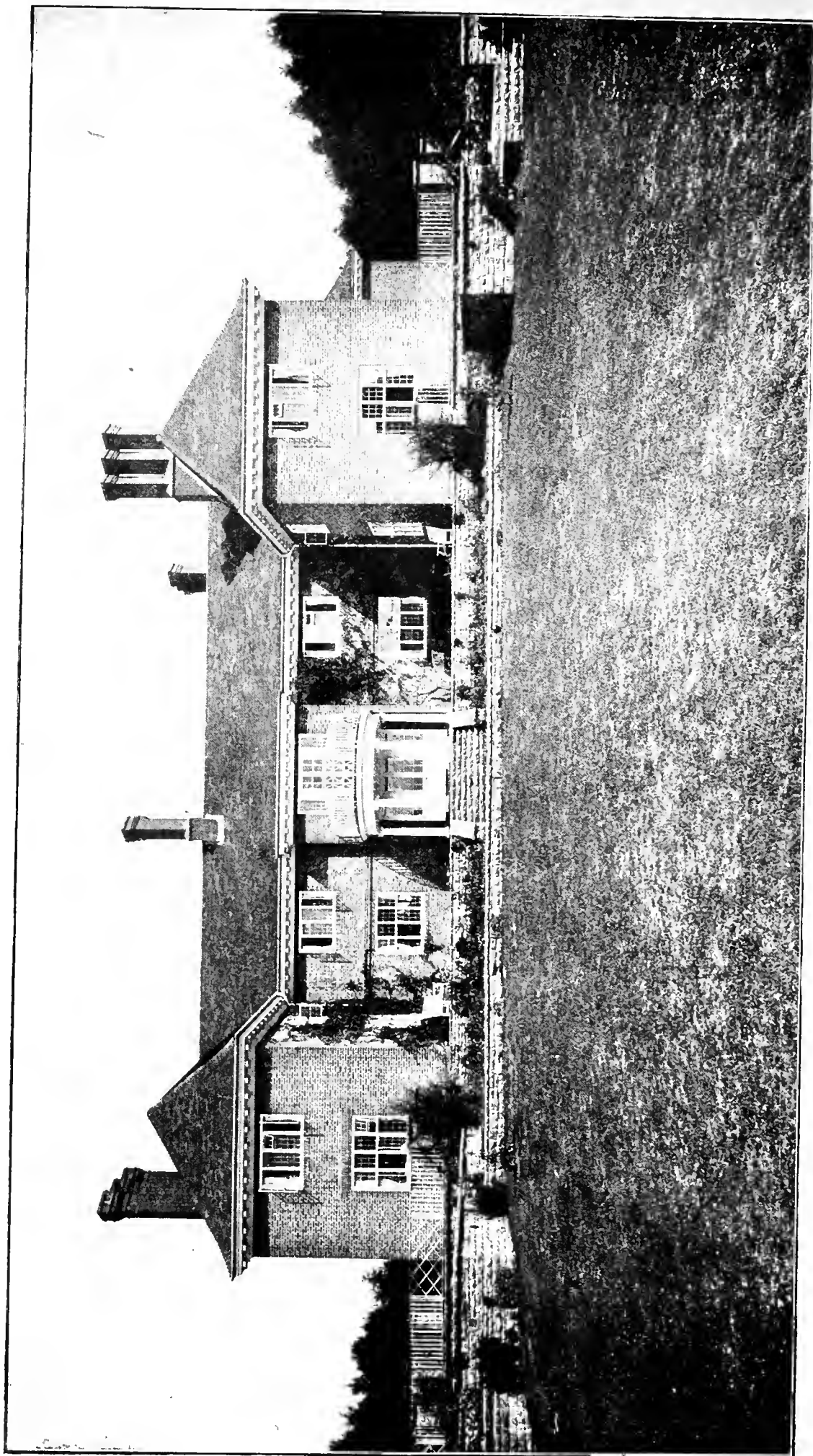
When the conference met again in the afternoon, the first business was to decide that all the recommendations of the Selection Committee as to reconstruction and resettlement should be postponed until the next meeting, which it was agreed should be in Birmingham, on August 1, as recommended. It was also resolved that as a tentative measure for dealing with finance, a £10 call should be made upon all the various organisations of operatives, and that a sum equal to what was thus produced should be contributed by the employers.

(Continued on page 416)

The Corporation has decided to build a public mortuary at Ripon.

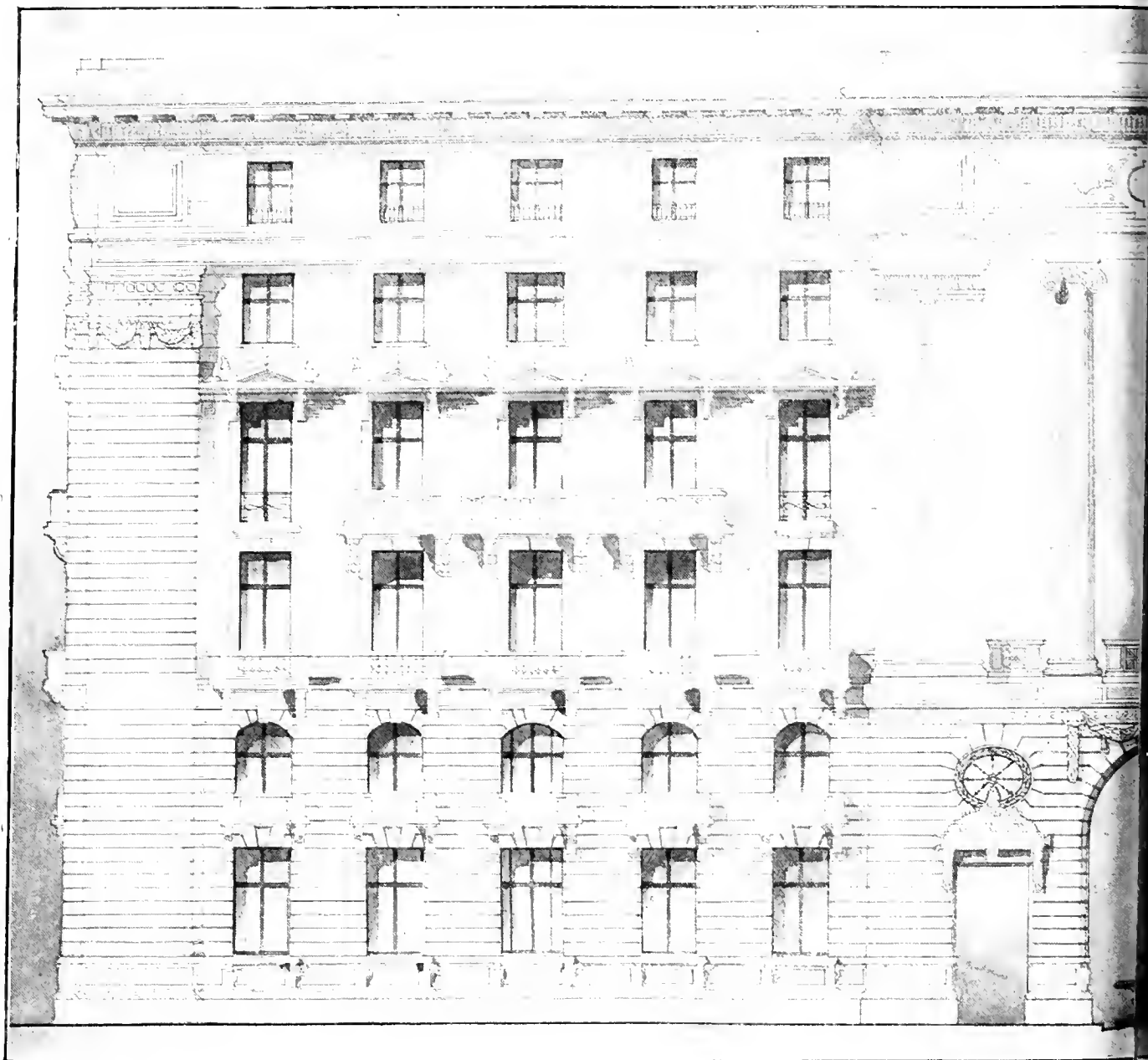
New paper manufacturing mills, to cost £30,000, will shortly be begun at Nottingham.

THE BUILDING NEWS, JUNE 5, 1918.



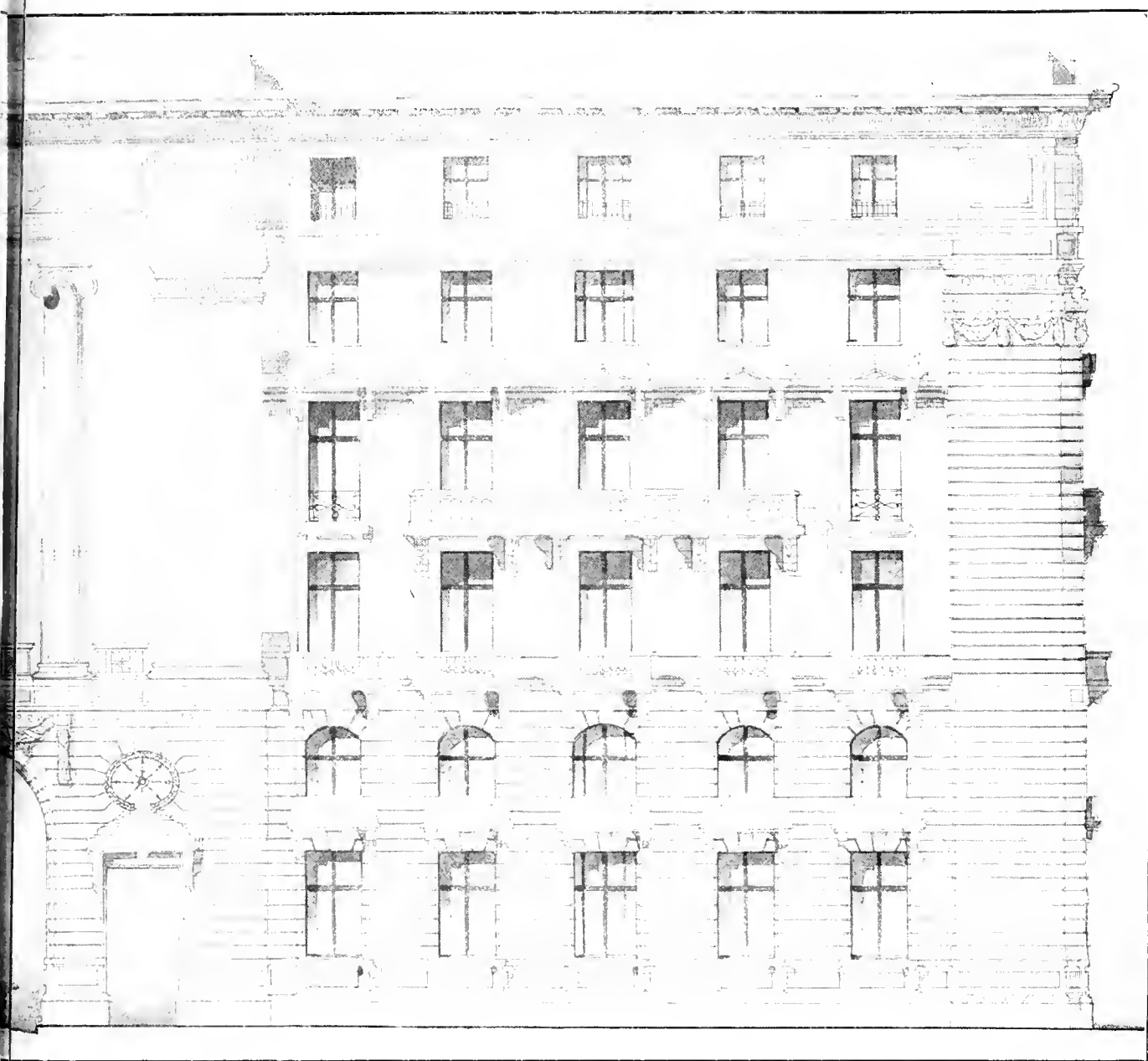
"FEATHERCOMBE," HAMBLETON, SURREY : GARDEN FRONT.—Mr. ERNEST NEWTON, A.R.A., Architect.

THE BUILDING

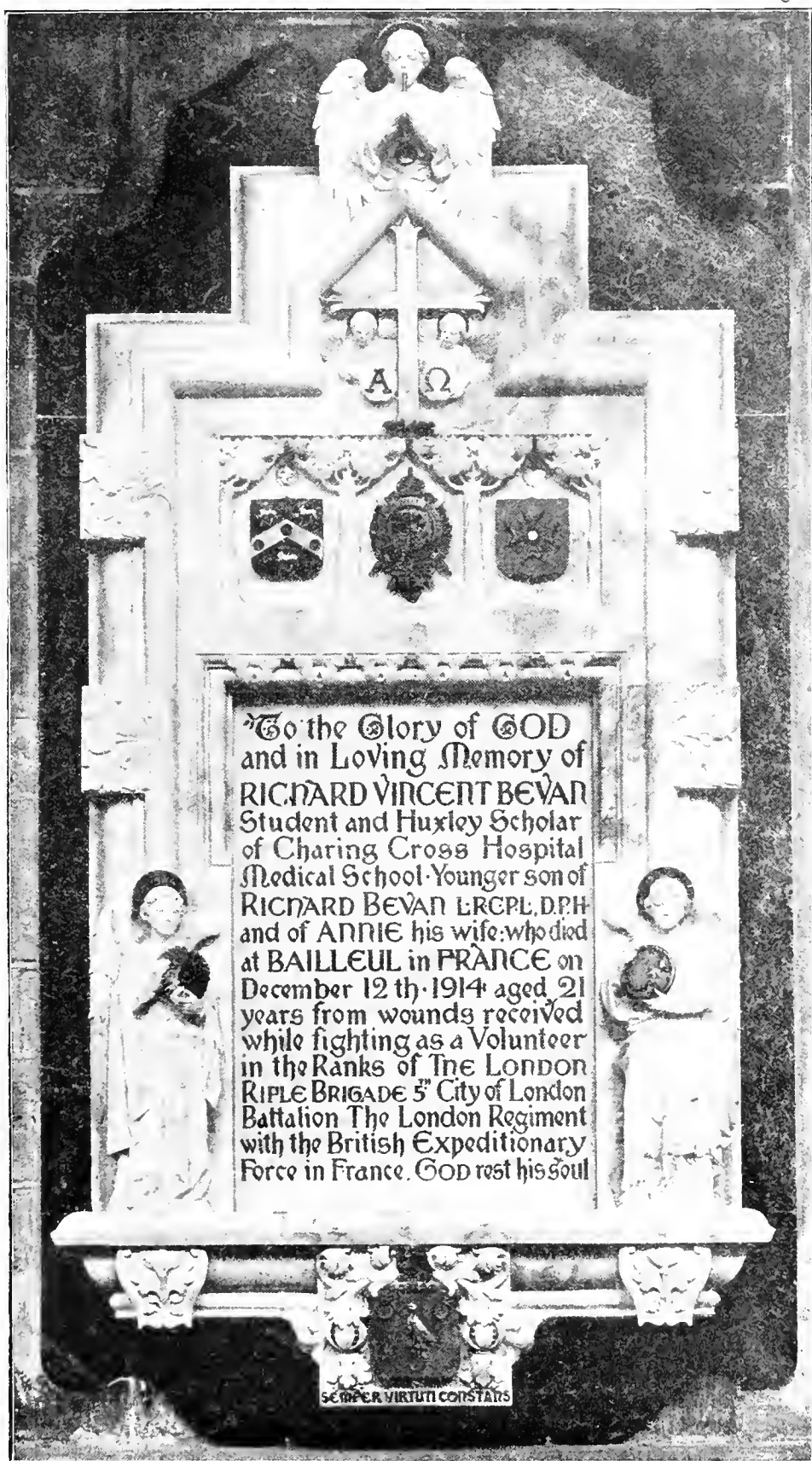


DRAKEFIELD COURT : SOUTH-EAST ELEVATION AND MAIN ENTRANCE

W, JUNE 5, 1918.



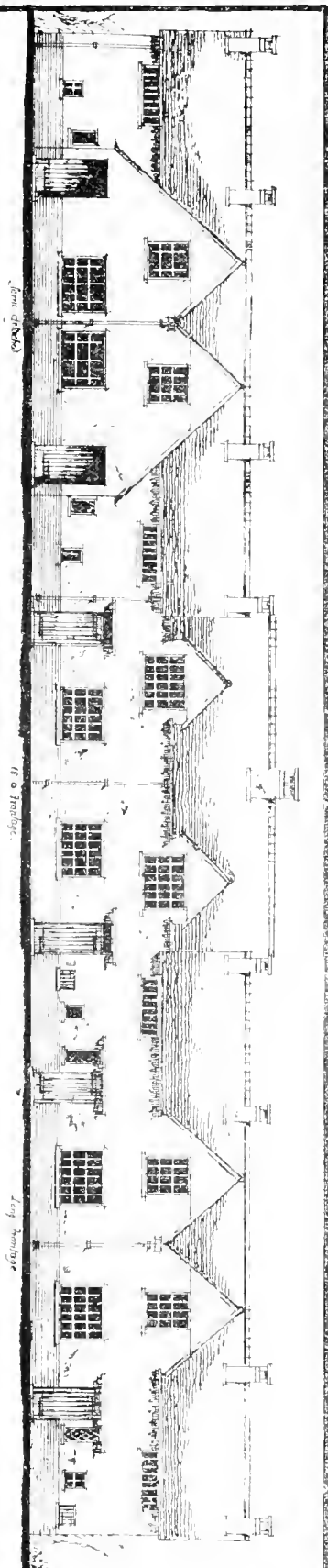
E TO COURTYARD.—Messrs. WILLIAM and EDWARD HUNT. F.F.R.I.B.A., Architects.



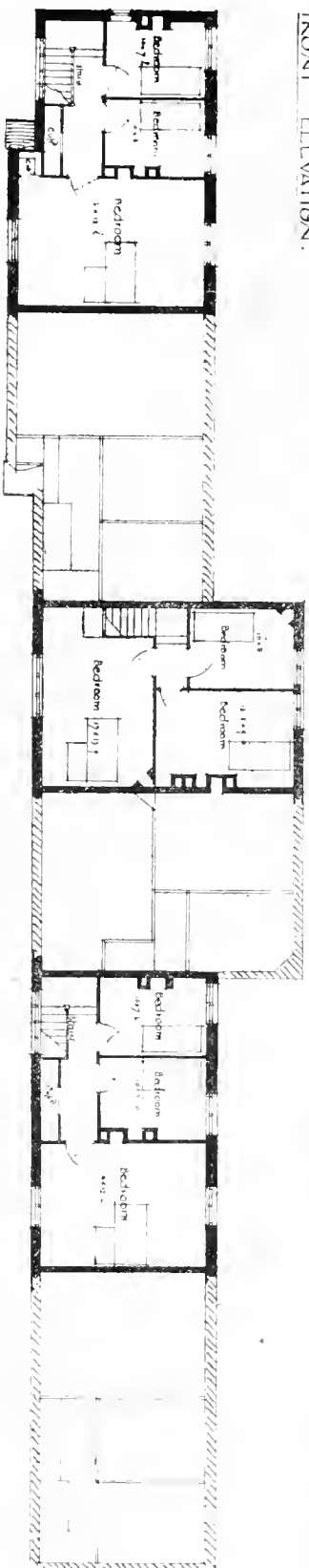
[Bedford Le Mere, Photo.]

MARBLE WAR MEMORIAL, HAMMERSMITH PARISH CHURCH.
Mr. MAURICE B. ADAMS, F.R.I.B.A., Architect.

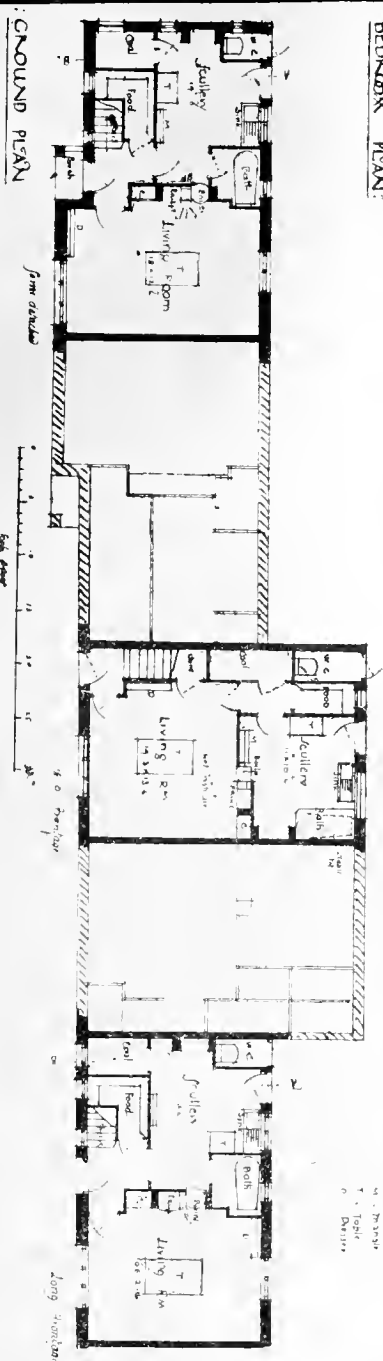




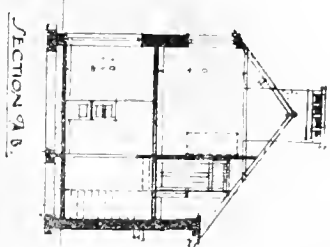
FRONT ELEVATION.



FIRST FLOOR PLAN.



SECOND FLOOR PLAN.



SECTION A-B.

HOUSING OF THE WORKING CLASSES, ENGLAND AND WALES: SOUTH WALES AREA.
SECOND PRIZE DESIGN, CLASS A, URBAN DISTRICTS.—Messrs. JOHNSON and RICHARDS, Architects.

Our Illustrations.

FEATHERCOMBE, HAMBLETON, SURREY.

This house is built on high ground sloping south and west. The materials used for building were Sussex clamp bricks, with local red dressings; the roofs were of Wrotham tiles. The general contractor was Mr. J. B. Seward, of Wokingham. The road making, garden work, etc., was carried out by Messrs. Milton and Sons, of Witley. Mr. Ernest Newton, A.R.A., is the architect. The photograph here given is now at the Royal Academy Exhibition.

MARBLE WAR MEMORIAL, PARISH CHURCH, HAMMERSMITH.

As Chaplain to the London Rifle Brigade, the Bishop of London dedicated this monument on Sunday last. It has been erected in the south aisle of the Municipal Parish Church of St. Paul at Hammersmith as a memorial to Private Richard Vincent Bevan, of Charing Cross Hospital, who at the outset of the war immediately volunteered, and served in the ranks with the British Expeditionary Force fighting with the City of London Battalion, when he lost his life at Bailleul, in France. He was the younger son of Dr. Richard Bevan, of West Kensington, an Alderman of Hammersmith Borough Council. The scheme of the monument, which is nearly six feet high, consists of the Angel of the Resurrection at the apex. The climax of the design is the emblem of the Passion, with two angel supporters bearing the A and Ω. Three heraldic shields in gold and colour below are set in the niches of "The Garden of Life" (typified by the trees), representing the Dean Colet arms of his school (St. Paul's), his hospital (Charing Cross), and badge of his regiment (London Rifle Brigade). Two guardian angels—full-length figures, right and left—are holding the sun and moon, emblems of Time. The Bevan family arms, set in mantlings, are carved below, indicative of the founders of the clan, which is of Cornish origin. The tablet frame is in blush alabaster, set out on a green marble shaped verge. The inscription panel is in fine statuary marble, with incised lettering in dead black cement, drawn out full size by the architect, Mr. Maurice B. Adams, F.R.I.B.A. The execution of the work was exceedingly well done by Mr. Nathaniel Hitch. The heraldic work is carved, correctly tinted, and gilt.

DRAKEFIELD COURT, SOUTH-EAST ELEVATION AND MAIN ENTRANCE TO COURTYARD.

This building of maisonnettes is planned with a courtyard, and the accompanying elevation shows the intended main façade with carriage-way and an open screen above. The building is to be carried out as soon after the war as practicable. The suites are planned on axial lines and with varying accommodation; the larger maisonnettes contain an entrance hall with ante-chamber, drawing-room, dining-room, eight bedrooms, bath-rooms, dressing-room (with bathroom), billiard-room or library, and servants' sitting-room, etc. Smaller maisonnettes will have from six to four bedrooms. Each maisonnette is to be provided with a separate trade lift and trade entrance, and all the rooms and halls are to be direct lighted. Cloak, ward-robe, linen, store and service closets are provided for each suite, the principal bedrooms having a bathroom attached. A service lobby will separate the culinary departments, which are proposed to be equipped with complete electrical and steam installations for cleaning and cooking, and with labour-saving devices of several kinds. A garage is contrived in the sub-ground level for storage and cleaning of cars, having separate entrance at the north-west end. A ballroom, tea and lunch-room, children's recreation-room and gymnasium are to be provided, and there will be a small ice plant below the courtyard level. (The main water storage will be carried over the screen to the main courtyard entrance.) The main elevations are intended to be faced with Portland stone, with some portions of blue Forest of Dean. The interior will be

treated on simple but dignified lines, utilising stone, marble, English jasper, polished stone, parquet, pine and plaster panellings, some enrichments of deposited bronze, and a dull glazed tintured faience, while Australian and Canadian and Italian hardwoods are intended to be used. Messrs. William and Edward Hunt, F.R.I.B.A., are the architects. The drawing here reproduced is now on view at the Royal Academy.

HOUSING OF THE WORKING CLASSES, ENGLAND AND WALES: HOME COUNTIES AREAS. SECOND PRIZE DESIGN.

Mr. F. C. W. Barrett, of Apple Tree Yard, St. James's Square, won the second prize of £50 for this design for cottages in the urban districts, London areas. These houses were designed to be built in a block. Owing to the economy which had to be considered, it was necessary that they should be worked out on simple and straightforward lines. By separating the "terrace" houses rather than placing them together in the centre of the block, and with careful spacing of windows, the author felt that a more attractive grouping and pleasing elevation was achieved, and he has realised the aim thus determined.

HOUSING OF THE WORKING CLASSES, ENGLAND AND WALES: SOUTH WALES AREA. SECOND PRIZE DESIGN.

We published two sheets in illustration of Messrs. Johnson and Richards' first prize designs (£100 each) for the B and C classes, in the South Wales areas, in *THE BUILDING NEWS* for May 29, and gave a descriptive notice embodying the notes sent us by the architects. To-day we give their competition drawing of the second prize design for Class A. Their first prize plan for Class D will appear shortly.

BUILDING TRADES' PARLIAMENT.

INAUGURAL MEETING.

(Continued from page 405.)

Mr. T. Foster (N.W. Federation of B.T. Employers) then opened a discussion as to the ideals which the Building Trades Parliament should have before it. He said the Whitley report might seem to be the immediate occasion of their coming together, but he was inclined to think that had the Whitley Committee not sat, the Building Trades Parliament would have met earlier. (Hear, hear.) The proposal for such a Parliament had come from the operatives, and the memorandum which they had submitted in June, 1917, was earlier in date, and better drafted than the Whitley report. The memorandum stated, among other things, that the hope of the future lay in the intimate and continuous association of management and labour, that the common interests of industry would be found to be wider and more fundamental than those that were opposed, and that it was upon the broad basis of these common interests that the fabric of the new industrial order might be confidently raised.

A short discussion followed.

Mr. J. Jones (United General Labourers) said that one might have all the ideals he liked, but as long as one class of the community owned the means of producing wealth, and another class owned nothing but the labour power which it had to sell in order that it might live, those ideals would have to take second place. Neither employer nor employed were master of the situation. The employer, for instance, had to go to his banker; and it was no use talking about the beauties of a new heaven and a new earth to the man who lent you money. How many people in the building trade would be satisfied if they were told that there was not the same percentage of profit as before, but that better buildings were being put up? Artistry and output did not go together. Great historical buildings had not been erected by contract. We must recognise our limitations. If the workers could convert the employers to the view that the present system was a rotten one, the Building Trades Parliament would do some good.

A vote of thanks to the chairman terminated the proceedings.

Our Office Table.

Acting on a suggestion of the Architects' War Committee the Council of the Royal Institute sent on May 16, a deputation to wait upon Sir Auckland Geddes and discuss with him the possibility of securing technical employment in the Services for architects who will be called up under the Act extending the age for military service. In the unavoidable absence of Sir Auckland Geddes the deputation was met by Colonel Scovell and other officers in the Army, Navy and Air Force. The deputation was very sympathetically received and there seems a fair prospect that the proposals of the deputation may take effect. All architects who are affected by the extension of the age limit are asked to communicate with the Hon. Secretary of the Architects' War Committee, 9, Conduit Street, London, W., in order that they may be communicated with in due course.

In order that, when the resumption of archaeological research in Palestine becomes a possibility, and Great Britain may be able to take its share in the work, the British Academy, at the suggestion of the Palestine Exploration Fund, has taken the initiative in constituting an Organising Committee, with the object of founding a British School of Archaeology at Jerusalem. A general committee will be formed in due course.

An exhibition of town-planning drawings was opened on Monday, in the galleries of the Royal Society of Artists, New Street, Birmingham, arranged by the Birmingham Architectural Association to arouse public interest in the general question of town-planning. For this purpose a number of architectural drawings relating to suggested schemes in various parts of the country have been brought together. Two sketches entitled respectively "Derelict London" and "Reclaimed London," depict the Surrey side of the river, between Westminster Bridge and London Bridge, as they are to-day—a forbidding, not to say, appalling, area—and as they might be if an embankment were made and the district properly laid out. Another drawing in coloured crayons of the Charing Cross improvement scheme is also shown. One side of the gallery is occupied with a number of maps representing a civic survey of Greater London, and the opposite one by drawings of various improvement schemes suggested for Newcastle, Dublin, Bath, Exeter, Ottawa, and Vancouver. The exhibition will remain open for three weeks.

COMPETITIONS.

WELSH RURAL COTTAGE COMPETITION.—The Welsh Housing and Development Association announce the appointment of the following persons as professional assessors for the competition for rural cottage plans which has been arranged in connection with the Royal National Eisteddfod of Wales, to be held at Neath, in August, 1918:—Professor Patrick Abercrombie, F.R.I.B.A., and Messrs. G. A. Humphreys, F.R.I.B.A., and J. Cook Rees, M.S.A., President of the South Wales Institute of Architects; there are also two lay assessors. Particulars can be obtained from Mr. Phillip Thomas, Glynifor, Neath.

As an illustration of the far-reaching effects of our advertisements, we have a report that Pudlo, the usual waterproofing powder, has been used in British East Africa on the large new soda works on Lake Magadi, in two concrete dams at Nakuru, and in work as far remote as Uganda.

Some of the figures of the quantities of material used in connection with the war are astounding. For instance, Bell's United Asbestos Company have supplied the Government during the past year with no less than a hundred and seventy million square feet of their "Poilite" building sheets, or enough to encircle the earth with a few thousand miles to spare!

In our Obituary notice on p. 402, last week, of the late Mr. Percivall Currey, we stated that his son, Lieutenant Harold Currey, would resume the business on his return to civil life from the front. We are glad now to be able to state that Lieutenant Currey, since being invalided from France, is now on home service, and will be in touch with the business so long carried on by his father and grandfather.

THE BUILDING NEWS

AND ENGINEERING JOURNAL.

Effingham House.

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OUR ILLUSTRATIONS.

Proposed Roll of Honour Hospital for Children, London. Messrs. Alfred H. Hart and P. Leslie Waterhouse, F.R.I.B.A., Architects.
St. Edmund's School, Whitstable Road, Canterbury. View Facing the Cricket Fields and Two Plans. Mr. Charles J. Blomfield, F.R.I.B.A., Architect.

Strand, W.C.2

Hanover Gate Mansions, Park Road, Regent's Park, N.W. View and Plan. Mr. Charles J. Blomfield, F.R.I.B.A., Architect.

Housing of the Working Classes, England and Wales. Class D, Rural Districts. Two First Prize Designs. Mr. Charles Cole, Architect (Exeter), in the Competition for the S.W. area of England, and Messrs. Johnson and Richards (Morthyr Tydfil), South Wales Area Competition. Plans, Elevations, and Sections.
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Currente Calamo.

We deeply regret that Col. Royd's motion for the insertion of a new clause in the Finance Bill, having for its object the repeal of the Land Duties, which he moved yesterday week after we went to press, was withdrawn after a frank admission by Mr. Bonar Law that his views in regard to them had not changed, but he thought it "would not be possible." at the crisis of the war, to contemplate a change. So, if the war lasts twenty years, there is no prospect of relief for builders or for the dawn of perception by Mr. Bonar Law that the imposition of taxes which during the past nine years have cost four times as much to levy as they have produced is the rottenest finance of which even Mr. Lloyd George was capable, and has brought stagnation to the second great industry of the kingdom, and a shortage of houses which is a menace to the health of the people. The real reason, of course, is, as Mr. Price, the member for Central Edinburgh, declared, that to change now "would be a gross breach of the party truce"! There are a good many people who think we are suffering many things in order that "the party truce" may keep the members of the present House of Commons snug in their seats and safe in the enjoyment of their salaries, and are silently registering a vow not to forget it when the General Election comes. We are of no party in these columns, but we trust all concerned will redouble their efforts to make the ordinary elector really understand the mischief wrought by Mr. Lloyd George's ill-starred Finance Acts of 1909-10, and the effects of the shameful connivance of our legislators ever since in the smothering of all efforts to redress it, including those who have candidly confessed that it was about the grossest departure from sound finance Parliament has ever sanctioned.

A notice to quit, whether given by landlord or tenant, should be the easiest document to write out and send to the other party. No legal form has to be followed; no formality need be observed. Yet the Law Reports are overcrowded with cases as to the validity of notices to quit, and litigation upon this small matter of common sense still continues. The latest example is the recent case of

"Norfolk County Council v. Child," just decided by two judges of the High Court. It all arose over a farm; the plaintiff's agent had sent on their behalf as landlords a notice to the defendant, as tenant, to quit the premises he held at Michaelmas of last year. But with it was a covering letter referring to the notice, and adding unless the landlords "see sufficient reason in the meantime to change their opinion." These words arose upon the point as to whether the tenant would be able later to continue his tenancy. The county court judge had held that the notice, with the letter, was bad, because it was not definite and certain, and was one upon which the tenant could not safely rely, and so he found in favour of the defendant. But the High Court, while holding that a notice to quit must be definite and unequivocal, and not vague or uncertain, held that the concluding words in the covering letter did not affect the clear notice to quit at Michaelmas which had been given. For, as the Court said, those only dealt with the landlord's consent to continue the tenancy. But for this the tenant's consent would also and equally be required. The tenant therefore could safely act upon the clear notice to quit and arrange to leave at Michaelmas, without regarding the proposed continuance. So the appeal was allowed, the notice held valid, and this very simple matter concluded.

The Employers' Parliamentary Council have issued a memorandum on the Bill which gives powers to the Minister of Labour to establish wages boards for the fixing compulsorily of rates of wages which employers may legally pay. The Bill is an extension of the Trade Boards Act (1909), which is restricted to what were called "sweated industries," and is regarded as an attempt to fix permanently the inflated wages and artificial conditions of employment prevailing during the war. Under the principal Act extensions could be made only by Provisional Order confirmed by Parliament, thus securing to all opponents the right of being fully heard. The present Bill transfers powers from the Board of Trade to an individual Minister, practically removes the safeguards given by the principal Act, deprives opponents of the right to be heard by Parliament against an order, and places them at the mercy of a State De-

partment without any power of resistance. The Employers' Parliamentary Council are not aware of any reason for departure from the present course of procedure, and therefore urge the retention of the safeguards now existing, and submit that such a Bill should not be promoted in anticipation of the proceedings of the Joint Standing Industrial Councils to be established in the several industries, among the essential functions of which will be the fixing of rates of wages to correspond with the demand for "a higher standard of comfort generally"; and they further submit that to give general powers to a State Department to trespass upon the legitimate province of these bodies, which would possess a practical knowledge of the facts and circumstances relating to the industries they represent, is unwise and harmful, and likely to be strongly resented by the Joint Councils, who will naturally be jealous of their own authority and powers. If these Joint Councils cannot be trusted harmoniously to settle such a fundamental matter as the fixing of the rate of wages without their arrangements being subject to the decisions of a Statutory Wages Board, set up possibly at the instigation of a small number of discontented persons, their prestige will, it is contended, be destroyed, and the scope of their operations will necessarily be seriously diminished.

The Committee of the Ministry of Reconstruction, which is making an inquiry throughout the country from local authorities, builders, architects, and others as to the probable demand for, and supply of, building materials during the reconstruction period two years after the war, has extended, until July 1, 1918, the date upon which the inquiry forms already sent out are to be returned. The committee hopes that any authority, person or firm contemplating building works immediately after the war who has not received one of the committee's forms of inquiry will apply either directly or through an architect to the Secretary of the Building Materials Supply Committee, 67, Dean's Yard, Westminster, for a form. In cases where only sketch plans have been prepared and the preparation of complete plans and bills of quantities has been postponed until after the cessation of hostilities, it would appear that no materials

will be required until at least six months after the war, and as regards these works it will suffice if the under-mentioned particulars are furnished: County, description of building, estimated pre-war value of the work, estimated date of commencement of building, estimated duration of contract. Wherever possible, however, approximate quantities of materials needed should be furnished, especially in the case of building-stone and bricks, steel and timber. Materials needed for repairs, maintenance, etc., form the subject of a special inquiry and particulars of these are not needed at present. In other matters, however, it is hoped that every effort will be made to complete forms of inquiry by the date specified. Unless the committee is made fully aware of the prospective needs of consumers, it will not be possible to estimate how far the available supplies will meet the demand, and its efforts to secure co-ordination may thus prove unsuccessful.

It is pretty generally believed that paint should never be applied in wet weather, because it is less durable and more likely to wash off than paint applied in dry weather. This point has been the subject of some careful experiments conducted in America, according to the *Scientific American*, with raw linseed oil mixed with the usual dryers. This combination was spread on glass and kept in a current of dry air while protected from other reagents, and the air was freed from carbonic acid gas. The dry air was then made to bubble through alkali solutions of known strength in order to absorb any acids that might be produced during the oxidation of the oil. The amount of acid produced and the gain in weight of the oil film supplied data from which logical deductions could be made. When dry air was used the oil gained 18 per cent. in weight and the acid production was very low, but when air saturated with moisture was used the gain in weight was 50 per cent. and the volatile acid products were high. The conclusion is that the gain in weight was principally due to hydrates having been formed during the drying process. Hydrates are soluble products and, remaining in the paint films, may be washed out in the rain. So it is better not to do painting in wet weather or when the humidity is high.

Mr. Lynn Coy, a Chicago sculptor, has discovered that the backs of women in evening dress, listening to grand opera, reflect the moods of the music, and that therefore they constitute the best possible study for the statue of a musician. The application may be novel, though, possibly, it was familiar to the sculptor of the memorial to Sir Arthur Sullivan in the Embankment Gardens, but the fact that the human back is capable, not merely of shrugging disgust at draughts in the auditorium, a manifestation familiar to most theatre-goers, but of the higher emotions, was emphasised long ago by Mr. Chesterton in his monograph on Watts, in which he assures us that "Eve Repentant," "For He Had Great Possessions,"

and "Good Luck to Your Fishing" are notable instances; but, above all, "Love and Death," in which "the spine-line of the central figure of Death, with its great falling garment," is "the monument of about as noble a silence and suppression as the human mind ever bent itself to in its pride." Possibly bare-backed beauty will be the next cult of womanhood, when tired of the open blouse in front.

STRAINING BUILDING BY-LAWS.

The recent decision in the King's Bench Division, which we reported and commented on in our issue of May 8 last, has, naturally, created quite a flutter amongst the officials of the local authorities, some of whom are talking nonsense; but there are others, we are glad to see, who recognise that whatever the Local Government Board may do to let a little common-sense into its by-laws, local authorities, even as matters stand, have discretionary powers which only need exercising with the aid of common-sense to avoid unnecessary and high-handed interference with legitimate building. This view was well expressed by Mr. D. M. Jenkins, of Neath, who presided on the 1st inst. at the Swansea district meeting of the Institution of Municipal and County Engineers, and pointed out that the Court of Appeal held that the framers of the Act of 1907 did not consider the effect of the definitions of Section 23 on the old by-laws, and they possibly relied upon the local authority making any necessary amendments in their by-laws. However this may be, there is certainly no reason why the by-law relating to open space at the rear should not be amended so as to secure the reasonable objects of Section 23. Anyhow, the Court directly decided that to require an open space at the rear of any addition to a building prohibited any extension of the front, which was unreasonable, traversed the literal application of by-laws relating to new buildings, and opened up their application to other operations and the necessity for discrimination. In that wider aspect, as Mr. Jenkins pointed out, the decision only confirmed the actual procedure of many local authorities. With him every architect will agree that while it is unreasonable to treat only minor alterations as constituting new buildings for all purposes, it would be equally unreasonable and retrograde to allow substantial alterations and rebuilding generally to escape new by-laws, and so perpetuate old and defective standards.

So far, it seems that all the Local Government Board is doing, according to a statement made at the meeting by Mr. Elford, of Cardiff, is waiting to see what can be done in regard to a further appeal. That seems to us a characteristic attitude of the Local Government Board and a mistaken one. What is wanted is a total revision of the present "model" by-laws, and, meanwhile, instructions to the local authorities to guide their action by the Repton decision. And, however contrary it may be to the traditions of the Local Government Board, it would do well to convene a conference with the representative architectural bodies, and get some information therefrom which in the future might prevent anomalous litigation of the Repton case sort, and the consequent hindrance to building on the one hand and waste of money in the law courts on the other.

Mr. W. A. Forsyth, F.R.I.B.A., of 309, Oxford Street, W.1, the architect concerned in the Repton case, has published a

very timely letter in *Municipal Engineering*, in which he throws considerable light on the reasons for the case coming before the High Court. The action was directed to a three-storied addition, one room deep, at the corner of two streets, forming one of a series of six additions to an old house, and was in the nature of an application to restrain the Repton Rural District Council from exercising its powers to remove the extension. To none of the additions could the regulation open rear space "exclusively belonging thereto" be given. The Rural District Council stated that this three-storied projection incidentally raised the question of a dangerous corner. The Council had already adopted Sec. 22, Public Health Acts Amendment Act, 1907, which entitled it to have the corner rounded, and to pay compensation for any loss which the owners might sustain. The site of the addition was already fully rounded, so that the angle of the building was of necessity more than usually well splayed off. No specific requisition, Mr. Forsyth tells us, was made by the Council further to round off the corner, and presumably it realised that such a demand would be unreasonable. Possibly also the prospect of considerable compensation for any further loss of area may have induced the Council to abandon this method of securing the removal of the so-called dangerous element—the addition. The Council therefore proceeded to exercise its power to remove the building for not complying with the by-laws as to the rear space required for new domestic buildings—the addition having become a "new building" by the adoption of Sec. 23 of the Public Health Acts Amendment Act, 1907.

That this was nothing less than unjustifiable straining of the interpretation of the by-laws is to our mind clearly evident. Lord Justice Scrutton, in giving judgment, said that by-laws should be given "benevolent interpretation and reasonable operation." There was neither benevolence nor reason entitling the Council to pick out this one addition and ignore the remaining five. It is obvious that no additions or alterations can comply with the requirements of rear space, and that it is an injustice to enforce the strict letter of the law thus to prohibit such works. Mr. Forsyth endeavoured, however, and, in our opinion, with complete success, to comply with the spirit, if not the letter, of the by-laws, and so placed doors, windows and fireplaces in such positions and on a generous scale, as to secure ample ventilation from permanent open sources. Actually, he provided more than was reasonably demanded by the by-laws, but not in the actual manner or position therein laid down, yet in many ways in a much better form. That is the real point of importance, and it is ridiculous that any by-law should be so framed as to include the proper and commendable dispositions of a competent architect, perfectly securing all the objects aimed at by the Legislature, in the prohibition rightly aimed at the evasions of the jerry-builder or the recalcitrant building-owner. By-laws set forth by Government Departments should be flexible enough to avoid this, especially in regard to air-space at the rear of buildings. It is a matter for congratulation that the Court of Appeal has protected the public against needless and stupid straining of the sort perpetrated at Repton, and it is under considerable obligations to the Governors of Repton School and their architect for their persistent and effectual protest against a stupid exercise of local government, as utterly unnecessary as it must prove prejudicial to the legitimate enterprise of building-owners and the confidence placed by them in their architects.

COLOUR IN ILLUMINATION.*

By BEATRICE IRWIN.

Observation and experiment have led to the conclusion that there are three fundamental scales of colour, which react respectively on our physical, mental, and nervous systems. These I have named the physical, mental, and spiritual colours. Each of these is divided in turn, in accordance with its affective values, into sedative, recuperative, and stimulant colours. Whether we are aware of it or not, colour always falls within one of these three groups and always affects us in one of these three ways. These subdivisions of colour are represented in the accompanying chart (Fig. 1).

Red has been called a stimulant, blue a sedative, and green an exhilarating colour. I contend that red can be a sedative, blue a stimulant, etc., according to the composition of the red or the blue, or according to its combination with other colours. If we can determine and appreciate the psychological as well as the physiological value of a colour we can utilise it to an extent hitherto unknown. This theory has been submitted to laboratory as well as other tests.

Once we realise that the terms red, blue, green, etc., are only symbols for long ranges of vibratory phenomena which we must classify and utilise with a new nicety and thoroughness, we shall have taken the first step toward realisation of the full value of colour as an influence in our lives. If this new language of colour is to conduce to the comfort of all, it will have to establish its credentials through universal as well as individual channels, and it will have to prove its industrial as well as its æsthetic and scientific value.

At last colour is coming into her own through many channels, and, while realising their respective significance, I do not hesitate to say that one of the greatest opportunities for scientific colour expression lies in the hands of the illuminating engineer, for if the physician and psychologist can determine the science of the affective value of colour, the illuminating engineer can supply that light of any desired hue, and through this opportunity he can develop a new field of achievement.

But in order that he may avail himself of this opportunity he must train his eye and his whole organism to this broader vibratory conception and realisation of colour.

The colour-sense, like all senses, is dependent upon a definite but gradual education, and, while it is more developed in some than in others, it is certainly capable of coherence in all, and it is to the achievement of this coherence that the new science of colour aims.

An increased colour sensibility, with a lack of coherence, is what all colour expression suffers from at the present moment. In this colour language we have found a new voice, but we are trying to sing songs before we have formulated syllables—or practised our scales. The students of colour-science are thinking and speaking of colour in the psycho-physiologic terms individual to itself which my chart provides, and which aim at a clearer understanding upon a hitherto vexed question.

In this century any message that claims to be universal must fulfil exacting and multiple conditions, because this is the glorious age of co-operation, of mental democracy, and of the intermingling of industry, art, science, and religion. History has never recorded any epoch in which there was such an alliance and interpenetration of activities, not for the purpose of individual enjoyment, but for the general welfare. I have travelled once and a-half around this radiant world, and of all the countries visited America appears to me to be foremost in demonstration of this co-operative universalism. The theoretical philosophies and cautious enterprise of other countries pale before the ruddy and solid proofs of progress that are embodied in your vast cities, your expositions, your splendid libraries and colleges, and in your representative homes, which all proclaim the marvels of light and the longing for its further utilisation and understanding through this mobile and ardent medium of colour. Surely, then, it is not only well but essential that we should

employ some specialised classification of a phenomenon that we are expressing so freely.

For, fundamentally, this growing need and use of colour, and the increasing number of persons who are explaining and demonstrating its life, are only so many statements of the fact that, having battled with Nature's coarser forces and expressed their conquest through graven images of metal, wood, and stone, the race is now turning to the conquest of the finer forces which are collectively expressed in such words as light, electricity, vibration, and colour.

This new and broader aspect of colour is finding numerous adherents among psychologists, artists, astronomers, and craftsmen.

Turning now to colour in illumination, we may premise that the principal purposes of illumination are "Utility," "Beauty," and "Hygiene." Each of these may be promoted through a discerning and discriminating use of colour, and the demand for colour in illumination is a proof of our need for specialisation in this application of light. I can foresee the creation of harmonic and mobile installations that will vie with Nature's rhythmic distribution of light, which is so marvellously adapted to man's mobile requirements, for it is contrary to cosmic law that the human organism, so pulsating and plastic in its

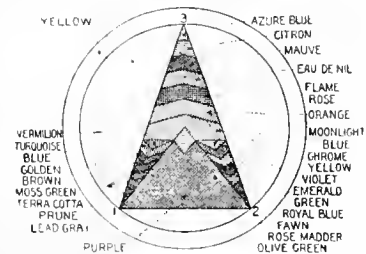


Fig. 1.

essence, should be subjected to a monotonous lighting. How would a plant be affected were it subjected to the same degree of light continuously?

Once the principles of colour-science have been mastered, half a dozen decorative schemes can be created by the use of adjustable screens, or textile linings, for globes, but these linings should not fatigue the eye with useless design. In lighting, as in other channels, the liberation of colour from conventional design is an essential point, because our perception of vibratory colour values is impeded by our perception of form. In my decorative work I advise diffused semi-indirect lighting for the first or general installation, and either lamps, side brackets, or globes sunk in the wall for what I call special or colour installation. Let us consider these installations in detail.

The general installation may with æsthetic propriety lay more stress upon its fixtures which have a permanent decorative value in the interior, but these fixtures should also be selected in harmonic correspondence with general colour environment. How often one sees a charming little room vulgarised by the introduction of a massive, pretentious brass or bronze lamp that is utterly incongruous with either the volume of light generated or the textiles illuminated! My attendance at various electric exhibits has shown me that considerable attention is still needed in this accessory branch of illumination. The general installation should be tinted either to heighten or lower the whole vibratory colour values of the room, but this tinting should be delicate and unobtrusive, its aim being to create atmosphere rather than to focus attention. This is the function of the second, or colour, installation, and in this case the fixture should be as nearly invisible and as unimportant as possible, so that the impression received may be from the colour itself, and it is best to express such light motifs in the natural recesses of shadow, or, if such recesses do not exist in a room, we can create them by various artificial means. For this purpose I have used masses of silk (which has a high reflective value) around special installations.

The sunken globes to which I have referred were also originated by me for the purpose of creating mobile colour expression

in the interior. Set in the wall under glass ledges, their brilliance gives life to the hollowed niche in which is set the colour screen which they illumine. These screens, which I am painting on parchment, are varied in form, can be changed at will, and are restful and effective. The electric current operated in connection with them can have several degrees of intensity, which further affects the colour values of these screens. In large halls or ball-rooms such effects could be used with great decorative value in conjunction with pools of coloured light in the floor under glass translucences.

When people become more acquainted with the hygienic value of coloured lights possibly they may insist on these installations with as much stress as they now lay upon ventilation. Compare our modern windows with the slit-like apertures of the Middle Ages, and notice how the race demands light as it progresses. Now, from quantity we are advancing to quality, and colour-science can teach us to differentiate in this all-important question of the degree and nature of the lighting system in our dwellings. Unless in stores, where matching is a necessity, the daylight system of illumination is a source of eye-strain and nervous exhaustion. Just as inadequate lighting is responsible for eye-strain in some cases, so over-lit rooms are responsible in other cases for more neurasthenics than the average physician is aware of. Colour-science suggests that every building shall have two systems of illumination for alternate, but not simultaneous use. The first installation shall fulfil practical demands, preserving the general conditions necessary for ocular hygiene, but avoiding any pronounced colour or decorative effects. For example, in a dining-room or library, for general purposes, there should be a discreetly tempered luminance graded harmonically to the vibratory colour values of the room, but in addition to this there should be decorative motifs of light which have a definite colour purpose and value, and this installation could be operated as occasion demands.

To preserve colour-balance a room worked out in sedative colour scale should have a recuperative value in its first and stimulant values in its second installation. Do you notice that I purposely avoid the terms "utilitarian" and "decorative," because I feel so strongly that in reality these terms are one, the greatest use always underlying the greatest beauty, the needless distinction between these terms being accountable for most of our errors in colour expression.

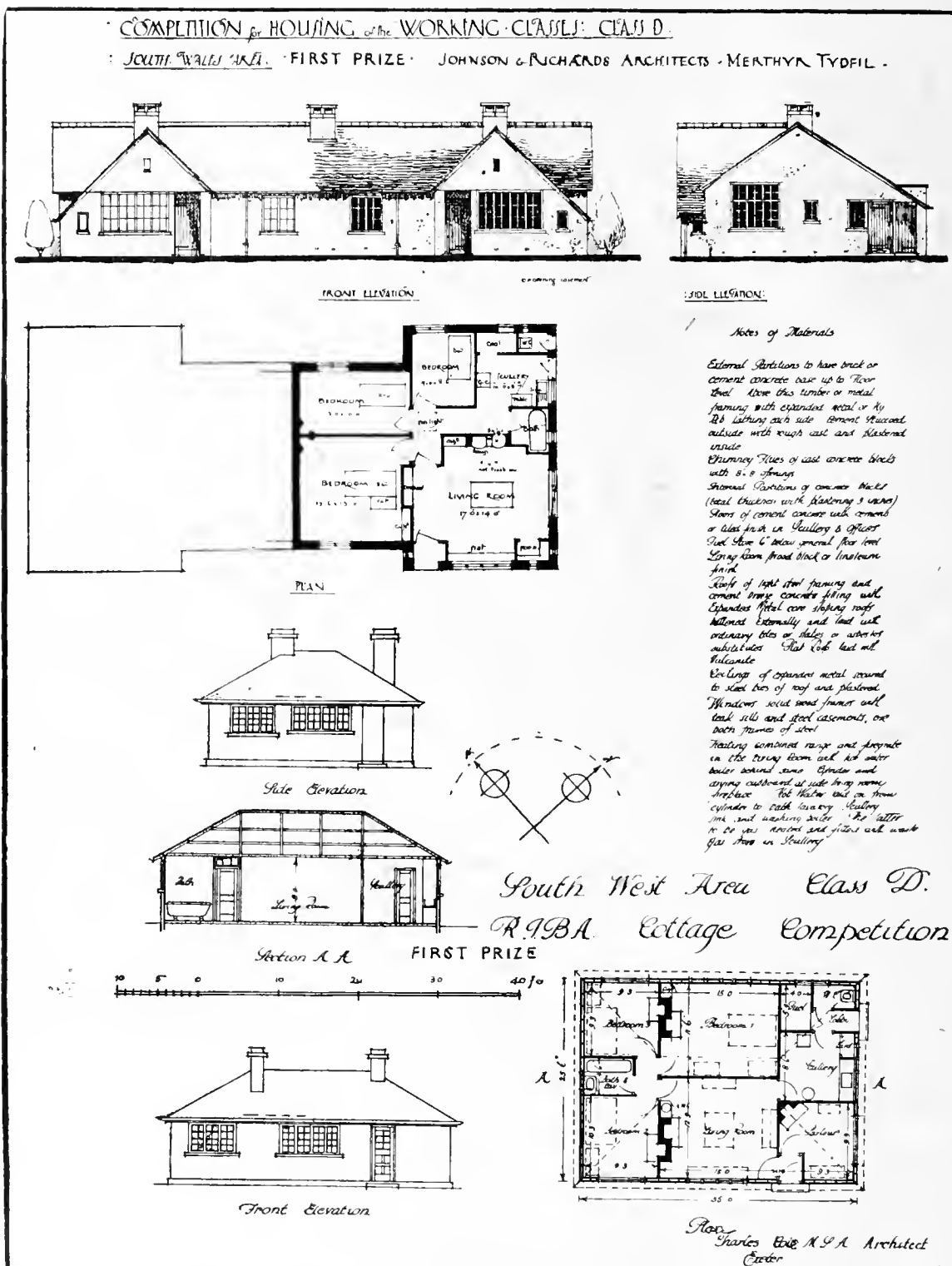
For example, a living-room may be worked out in sedative grey with first installation of diffused lighting in recuperative rose, and second installation in recuperative orange, stimulant green and mauve. Once the key of this new colour classification has been mastered, endless hygienic and æsthetic combinations can be worked out.

It is quite possible for a lighting system to possess colour-hygiene without possessing any æsthetic value, but it is the aim of colour-science to combine beauty with use in a very high degree. The object of this paper has been to prove that a co-operation between colour-science and illuminating engineering could considerably augment the three fundamental purposes of illumination, namely, utility, beauty, and hygiene.

We could co-operate to bring people to realise the physical benefit and nerve-repair to be obtained from mobile lighting. They might learn to vary the colour screens in their rooms as they now vary the hanging of pictures. Indeed, these decorative illuminations may take the place of pictures in many homes where it is not possible nor suitable to collect antiques. In the future these first expressions of a new art-science may themselves be called "antiques"! Who knows, save Time, that strange wizard, who doles out the mysteries of space no sooner than we are ready to receive them?

I have always felt a strong analogy between the American and the Greek republic, for the great Athenian public was in its demand for variety and beauty in every expression of life. Therefore, with ardour I commend colour-science, and invoke the co-operation of illuminating engineers.

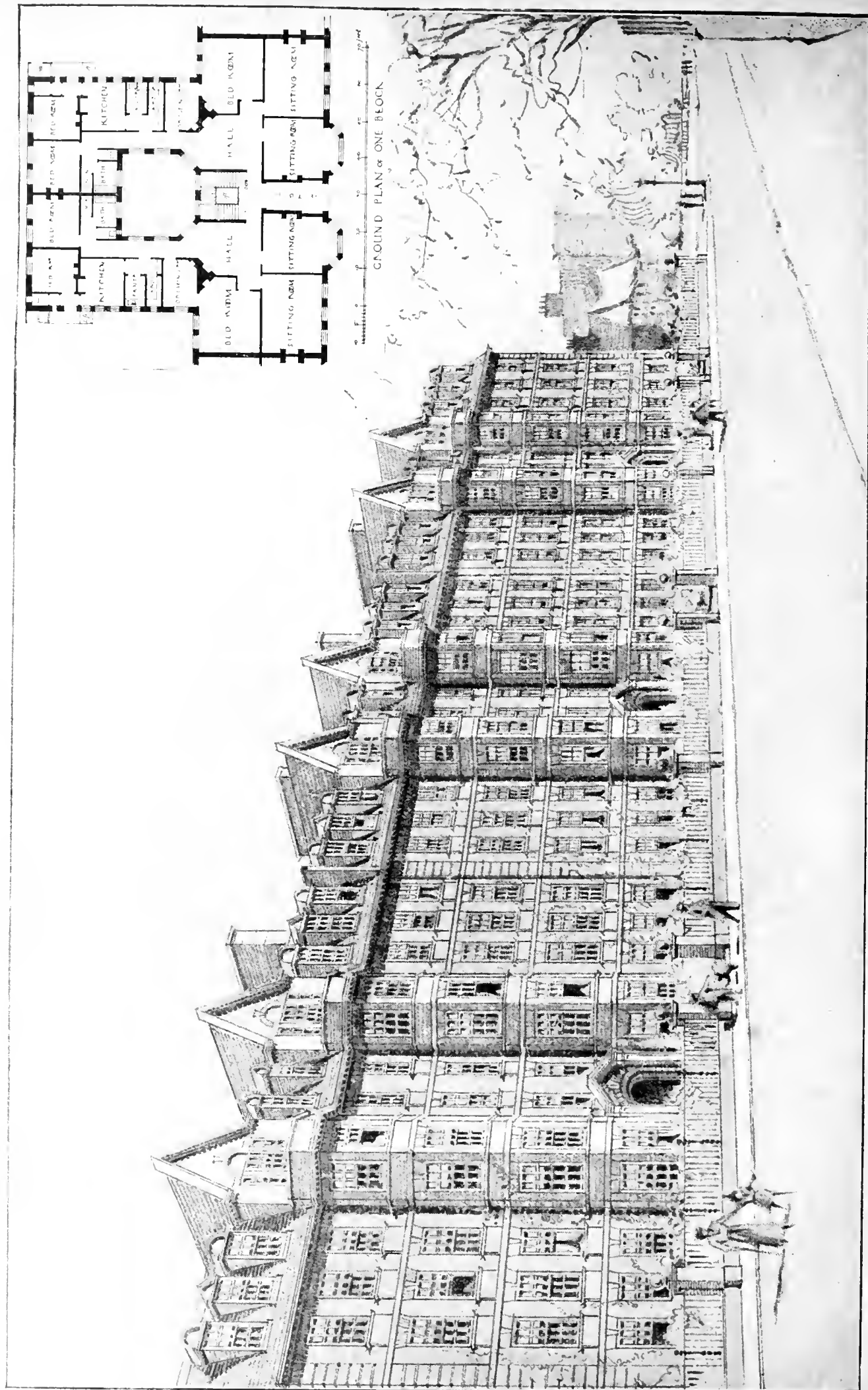
* Paper read before the Philadelphia Section, Illuminating Engineering Society, at the Franklin Institute.



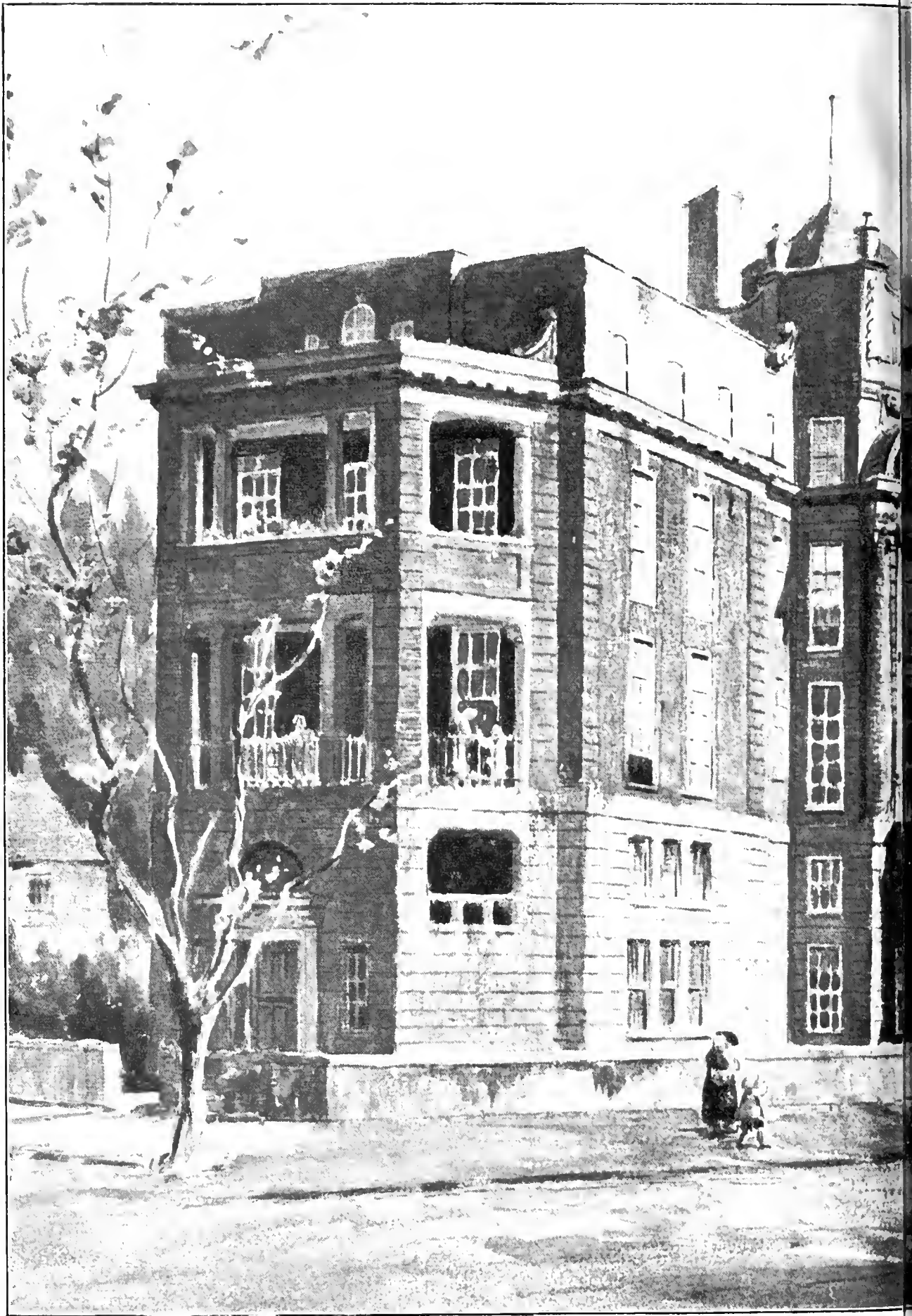
HOUSING OF THE WORKING CLASSES, ENGLAND AND WALES: CLASS D.
TWO FIRST PRIZE DESIGNS, RURAL AREAS.

S.W. DISTRICT.—Mr. C. COLE, Architect.

SOUTH WALES DISTRICT.—Messrs. JOHNSON and RICHARDS, Architects.

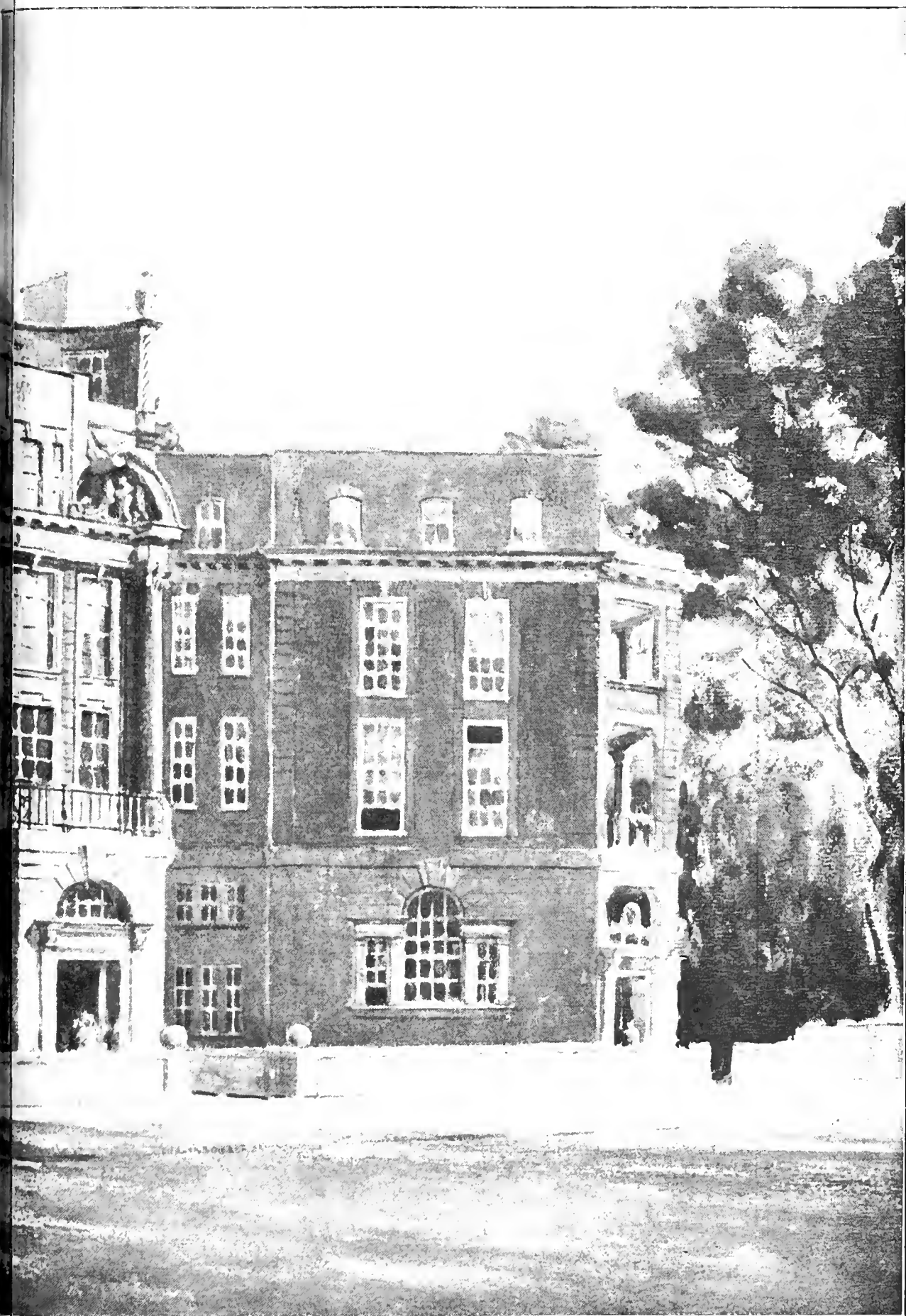


HANOVER GATE MANSIONS, PARK ROAD, REGENT'S PARK, N.W.—MR. CHARLES J. BLONFIELD, F.R.I.B.A., Architect.



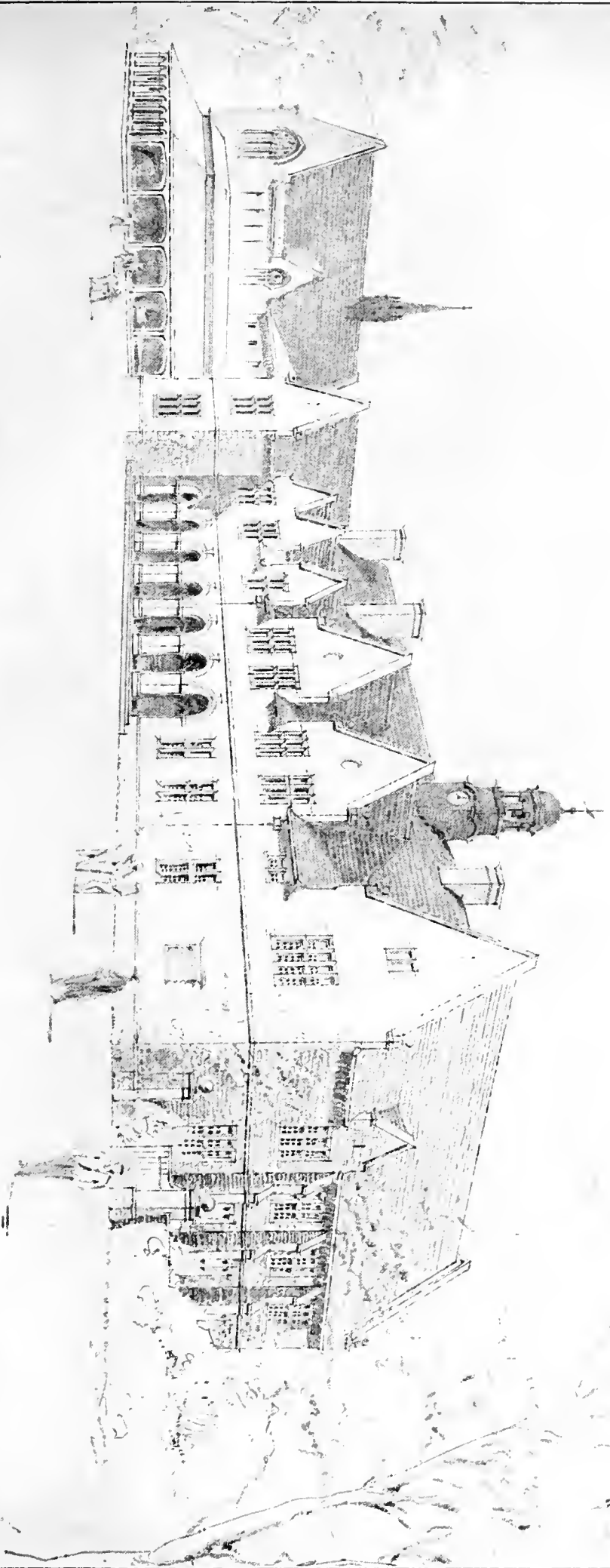
PROPOSED ROLL OF HONOUR
Messrs. ALFRED H. HART and P.

JUNE 12, 1918.

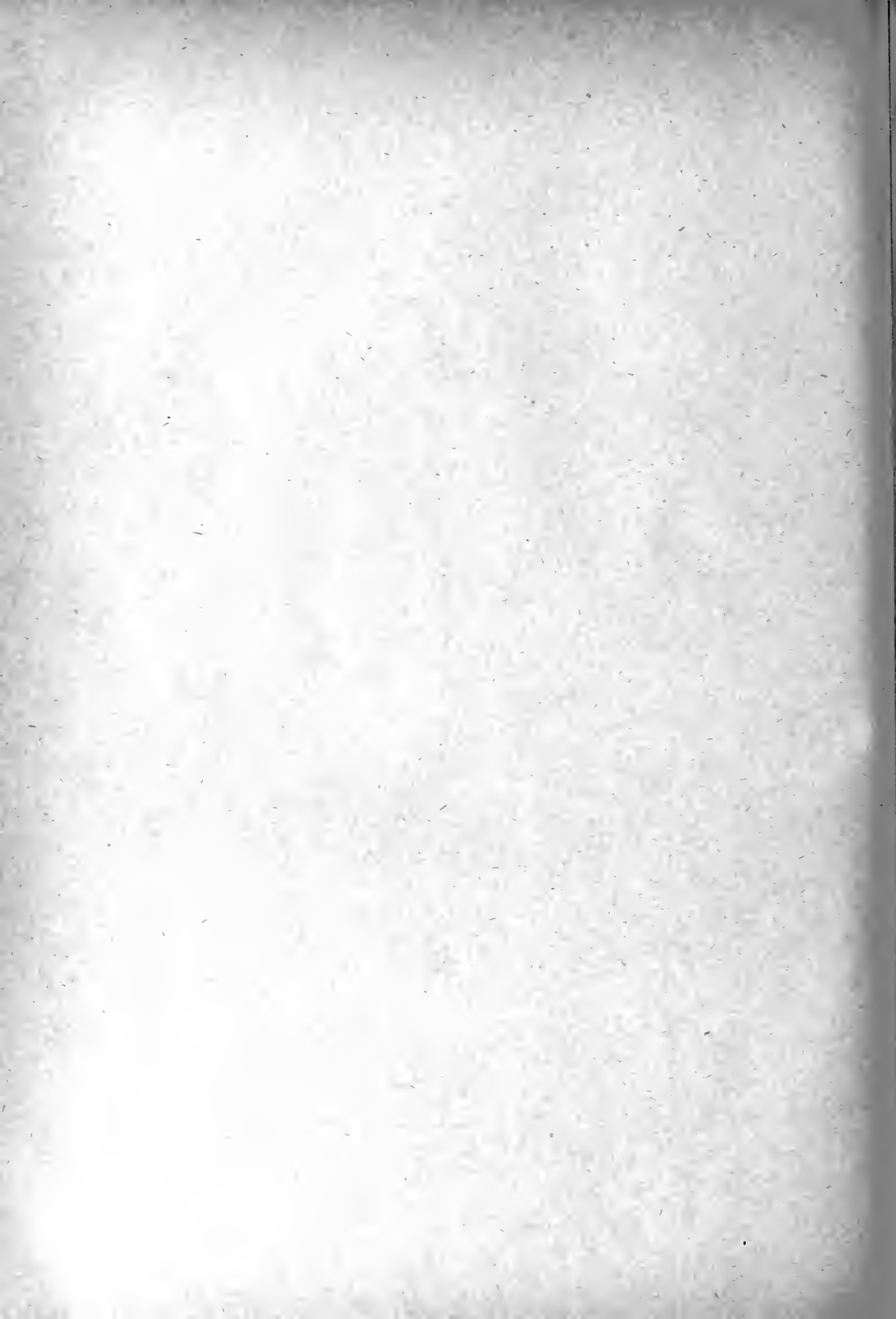


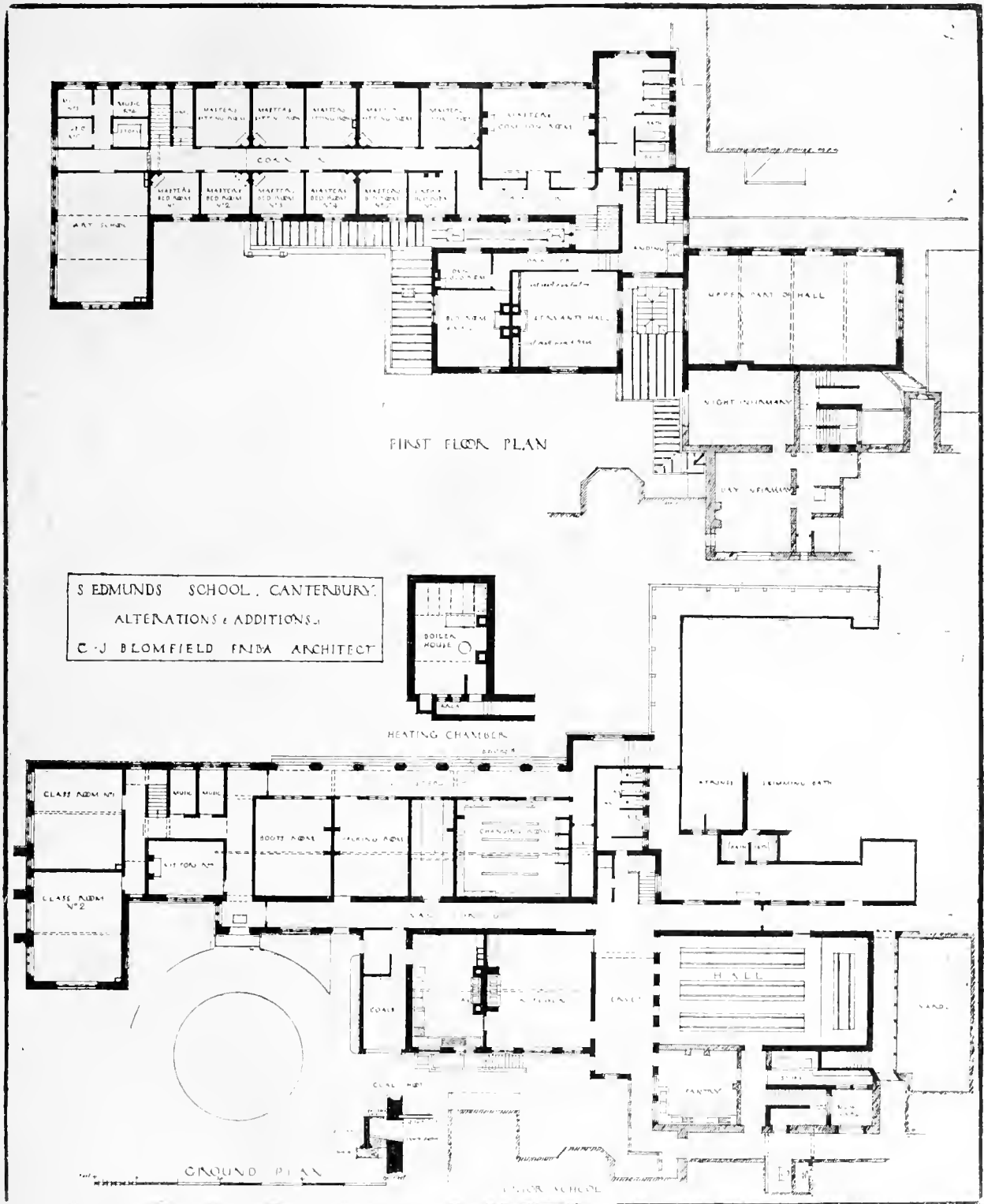
HOSPITAL FOR CHILDREN, LONDON.

WATERHOUSE, F.F.R.I.B.A., Architects.



ST. EDMUND'S SCHOOL, CANTERBURY: ADDITIONS AND ALTERATIONS. VIEW TO CRICKET FIELDS.
MR. CHARLES J. BLOMFIELD, F.R.I.B.A., Architect.





ST. EDMUND'S SCHOOL, CANTERBURY: ALTERATIONS AND ADDITIONS.
Mr. C. J. BLOMFIELD, F.R.I.B.A., Architect.

Our Illustrations.

PROPOSED ROLL OF HONOUR HOSPITAL FOR CHILDREN, LONDON.

This building is designed to accommodate fifty cots in six wards. The somewhat unusual shape is suggested by the site, while at the same time it allows full advantage to be taken of the open and sunny aspect. The desire of the committee is that the wards shall be made as "homey" and pleasant as possible for the children, and for this reason none of them will be large, but they will be rather suggestive of the well-equipped nursery, with suitable decorations, and with plenty of outside balconies. The out-patients' department will have an important place in the scheme. A special lift gives access to the roof, the whole of which will be available as an open-air ward for the little patients whenever weather conditions permit. The building has been designed by Messrs. Alfred H. Hart and P. Leslie Waterhouse, F.R.I.B.A., of Gray's Inn, W.C., and our illustration is reproduced from the drawing now being exhibited at the Royal Academy.

ST. EDMUND'S SCHOOL, CANTERBURY.—ALTERATIONS AND ADDITIONS.

These considerable extensions, of which Mr. Charles J. Blomfield, F.R.I.B.A., is the architect, were done for the Clergy Orphan Corporation, and the work is represented at the Royal Academy Exhibition this year by the drawing here reproduced. We also give a sheet of plans. The new accommodation comprises a large dining hall, a kitchen, scullery, etc., *en suite*, and servants' bedrooms above. The additions also include new class rooms, music rooms, and an art school, as well as apartments for the assistant masters. A view of the buildings, as seen from the Whitstable Road, will appear at an early date. The materials used are Kentish rag stone for the walls and green slates for the roofs. The general contractors are Messrs. J. Dorey and Co., of Brentford.

HANOVER GATE MANSIONS, PARK ROAD, REGENT'S PARK, N.W.

The three blocks of high-class flats are erected in Park Road as shown by the accompanying perspective, and the accommodation is set out by the plan given of one floor of one of the series. The materials used are stock bricks with red brick dressings, window heads, quoins, and other parts. Stone is employed for the cornices, doorways, sills, and string courses. Green slates cover the roofs. The architect is Mr. Charles J. Blomfield, F.R.I.B.A., of 125, Park Road, N.W.8.

HOUSING OF THE WORKING CLASSES, ENGLAND AND WALES.—TWO FIRST-PRIZE DESIGNS, RURAL DISTRICTS, CLASS D.

In the lower portion of this sheet will be found the plans, elevation and section, together with the descriptive notes of Mr. Charles Cole's first-prize design submitted by him in the Exeter and South-Western area of England. These little single-floor cottages were not intended to be erected in pairs, and the description given in the conditions indicated detached buildings suitable for rural localities. The architect's address is 50, High Street, Exeter. The upper half of our illustration is devoted to the elevations and plan of a pair of rural district single-floor cottages to be built in South Wales, Class D, this being the first-prize design by Messrs. Johnson and Richards, architects, Merthyr Tydfil. We gave two sheets on May 29 of their first-prize cottages for urban districts in the same area and some descriptive particulars of their capable work will be found on page 402. Last week (June 5) the set of plans for which the same architects were awarded the second prize of £50 were published. All of these South Wales housings are arranged to meet the exigencies mainly of mining neighbourhoods, and particularly when building tenements in rows or groups. The pair of single floor cottages under Class D are intended to be put up, as shown, on a level site, which is generally possible for so small a block.

Correspondence.

THE METRIC SYSTEM AND "GAS ATTACKS."

To the Editor of THE BUILDING NEWS.

Sir.—I trust you will allow me space to reply to Mr. Phillips's letter in your issue of May 29. Mr. Phillips is quite in error in his remarks in reference to my claim that our Ordnance parish maps are to a metric scale. This scale was agreed upon at an International Statistical Conference held in Brussels in September, 1853. Would Mr. Phillips advise that we should look upon this international agreement merely as a "scrap of paper"?

I pointed out in my paper read at the Surveyors' Institution that any map plotted to a decimal scale must be metric whatever unit of measure was used in the original survey. Mr. Phillips admits 1:2500 means "2500 meters on the ground is represented by 1 meter on the map," and then contradicts himself by adding "so much for the claim that the scale is metric. Decimal it may be of a sort, but most certainly not metric." It is begging the question.

I referred to decimal scale maps in my paper to show that although original surveys in the Overseas Dominions of the Empire have been made with various units of length, so long as they are plotted to decimal scale they can readily be used as metric maps with metric scale thereon, and a re-survey would not be necessary.

Whatever scale maps are drawn to, the enemy could, of course, reproduce the same by photography to any scale he liked, when preparing others, but what Mr. Phillips overlooks is that it is not necessary for the enemy to "prepare" metric maps of these islands as we have already prepared metric maps for him, and they were on sale to the public before the war. The point I strongly wish to make is that it seems unfair, or an oversight of a Government department, not to put a metric scale on a metric map; such an omission forms very strong evidence indeed in favour of making the metric system compulsory.

In reference to the last paragraph of Mr. Phillips's letter, there will be no necessity for me to refer to the books he kindly names, as I have read Mr. Phillips's book itself. Unfortunately, he is suffering from the delusion that there is already a British meter which is a very small fraction of an inch longer than the international meter, but he will not find any "standard" for this at the Board of Trade. He advocates a system of measures and weights based on this imaginary British meter, and then suggests that the excess in the weights and measures of our goods sent to foreign customers could be adjusted by complicated invoicing.

In addition to this (1) brand-new system, anyone reading his book will find he is prepared (2) to retain our present Imperial units, (3) to retain local and customary weights and measures declared illegal in 1878, (4) to retain the international system, and (5) to have a brand-new duodecimal system with entirely new and strange-sounding names.

We may rest assured, however, that the Standards Department of the Board of Trade would show the inadvisability of so many systems, one at least of which would have units so near in size and weight to those of the international system that they would be indistinguishable without the greatest care, and goods would have to be carefully weighed and measured to see to which system of weights and measures they were manufactured to.

If Mr. Phillips will talk of a British meter, he must not mind me referring to the metric system as the international metric system; further, it is used internationally.

The international metric system is quite easy to understand and use. Its opponents, however, make so many varied suggestions of other systems, and it is these which cause confusion of thought on the matter amongst the general public. We must learn to look upon these suggestions of brand-new systems merely as "gas attacks" made to smother the continual progress which is being made by the international system. The opponents of a simplification of our measures and weights are assisting the enemy to win in the coming commercial conflict.—I am, Sir, yours, etc.,

ALFRED J. MARTIN,

Fellow of the Surveyors' Institution.
Alton, Hants.

Mr. John Hodgson, road surveyor to the Richmond (Yorks) Rural District Council, has received the congratulations of the council upon completing fifty years' service in that position.

PROFESSIONAL AND TRADE SOCIETIES.

ULSTER SOCIETY OF ARCHITECTS.—The May general meeting of the society was held on Friday, the 24th ult., at the society's rooms. The president, Mr. N. Fitzsimons, F.R.I.B.A., occupied the chair, and there was full attendance of members, amongst whom were Messrs. R. M. Young, J.P., F.R.I.B.A., W. J. Gilliland, F.R.I.B.A., J. J. McDonnell, F.R.I.A.I., Major Jas. Ferguson, R.E., J. Seeds, R. I. Calwell, B.E., R. M. Close and T. W. Henry, M.S.A., hon. secretary. The minutes of the last meeting having been read and confirmed, it was resolved that the officers and council now in office remain so for the coming year, and that Mr. R. I. Calwell take the place on the council rendered vacant by the death of Mr. George Sands. The principal business was the discussion of the Government proposals regarding the rationing of materials after the war and the unfortunate position clients will be placed in who have not made application for their supplies for the period immediately after the termination of the war. A sub-committee consisting of Messrs. Fitzsimons, Gilliland and Henry was appointed with council powers to formulate and lay before the Ministry of Reconstruction the recommendations of the society as regards the supplies of building materials required in the province of Ulster and their rationing, and to point out that the extension of time granted for the return of particulars of buildings contemplated within two years after the war was still insufficient.

OBITUARY.

We regret to record the sudden death of Captain H. O. Cresswell, F.R.I.B.A., of Charles Street, Knightsbridge, in his fifty-eighth year, on Friday night last, after his return apparently in good health from the Arts Club. He was the son of the late Charles Cresswell, K.C., of Ashted, Surrey, and was elected an Associate of the Royal Institute of British Architects in 1886, became a Fellow in 1895, and served as president of the Architectural Association 1892-93. He was a past member of the Council of the Institute. The funeral took place yesterday. His principal work in London was the new premises built for the "Morning Post" in the Strand. The old palace at Richmond was altered by him in 1888, and in the following year a town house in the Renaissance style was represented at the Royal Academy from his designs. Among his country works are a house at Shandon, Mayfield, Sussex; another at Effingham, Surrey; Dene Lodge, Ash, Surrey; a residence at Woking, and in 1902 another house at Leamington. He likewise made considerable additions to the Hall House at Hawkhurst, 1911. Mr. Cresswell erected business premises in Great Portland Street, and among his town houses are examples in Park Street, Grosvenor Square; Queen Anne Street, Cavendish Square; and another in Green Street, Park Lane. The hall was added by him to Embley Park, Hants, in 1899. The hall and class rooms of the Commercial Travellers' Schools at Pinner in 1904; New Schools, Spring Grove, Isleworth; and the Armoury of the London Scottish Volunteer Corps, Wimbledon Common, in 1893. Since the war began Captain H. O. Cresswell has been connected with the War Office.

Plans are being considered in order to pay a fitting tribute to the late Sir William H. Stephenson to erect a suitable hall and premises, to be called the Stephenson Memorial, at Byker, for progressive social work. The cost of the structure alone will be approximately £20,000.

A meeting of the Perthshire Committee of the Scottish Veteran Garden City Association was held last week to consider reports by the Special Sub-Committee on the proposed scheme for a garden city at Callander. The scheme proposes the erection of a row of six houses in the first place at an estimated cost of £2,500. The meeting approved the report and architect's plans, and authorised the expenditure of a sum not exceeding £3,000 on the erection of the cottages, immediate application to be made to the Ministry of Munitions for sanction.

Building Intelligence.

WHITBY.—The ancient parish church of St. Mary, Whitby (Yorks), which was shaken and damaged by German bombardment in the autumn of 1914, has recently undergone repair. Several finials and coping stones have been strengthened and firmly fixed. The pillar and beams of the south transept and the Chalmley memorial pew, with its twisted columns, have been strengthened, and the stonework of the exterior parapets repaired. The chief repairs were in the north and west galleries, which were reported to be unstable. New wood beams and bearers have been inserted, built on strong brick piers. The work has been carried out under the direction of Mr. G. S. French, architect, 4, Normanby Terrace, Whitby.

PARLIAMENTARY NOTES.

THE LAND VALUE DUTIES.—Lieut.-Colonel Royds (Sleaford, U.), yesterday week moved a new clause in the Finance Bill having for its object the cessation of the collection of increment value, undeveloped land and reversion duties. He said that the collection of these land value duties cost on an average during nine years four times as much as they yielded, and the frequent valuations which they involved caused a great deal of irritation and would do much to hamper the building schemes which formed the first part of the system of reconstruction to be adopted after the war. It might seem strange that, since the yield of the taxes was small, persons interested in building should object to them so strongly as the resolutions and letters which he had received from a large number of organisations and individuals showed that they did; but that feeling was due to the involved character of the taxation, its unfairness, and the extent to which it discouraged the investment of money in the building of houses. It was the unanimous opinion among builders that if private enterprise was to be encouraged the step he proposed would have to be taken. He could not see what reason there was for objecting to the proposal to repeal a tax which produced nothing, cost a great deal, and prevented people from getting their houses.—Mr. C. Price (Edinburgh, Central, L.) said that any attempt to upset those duties, and thus reopen the acute controversy of the time they were imposed, would be a gross breach of the party truce.—The Chancellor of the Exchequer said his views expressed against the duties, when they were originally proposed, had not, he thought, in any way changed. Though he had a memorandum prepared at the Treasury on the duties, he did not think the arguments were very strong, and in any case he should not be prepared to use them. In refusing to have any part in upsetting the duties now it was not because he was in love with them, but because he thought, in regard to a matter which had aroused such acute controversy, which had not altogether died down, it would not be possible at the crisis of the war to contemplate a change in the arrangement. One of the very first problems of reconstruction after the war that must be undertaken by any Government was housing, and when it arose those duties must be reviewed in association with it.—The amendment was by leave withdrawn.

A first dividend of three shillings in the pound has been paid on the voluntary liquidation of E. H. Shorland and Bro., of Failsworth, Manchester.

The demolishing of the church of St. Katherine Coleman, Fenchurch Street, and using the proceeds of the sale of the site to provide a church in a poorer district is under the consideration of a committee of parishioners.

Mr. William Everall, auctioneer, who recently purchased from Messrs. Jones Bros. the frontage and premises in Shoplatch of the Sabrina Hotel (opposite the Corn Exchange), Shrewsbury, has had the block converted into a fine suite of offices. The frontage has been faced with Aberdeen granite, and massive teak doorways and fittings. The interior provides a large room for meetings.

Mrs. Peake, 18, Stafford Street, Newport, Salop, has received an official intimation that her husband, Private Henry Peake, has died of wounds. Private Peake, who leaves a widow and two children, joined the colours in November three years ago, and had been two years and three months in France. Prior to going into the army he was employed by Mr. S. Talbot, builder, of Newport.

Our Office Table.

A White Paper has been issued containing a report of the Committee appointed by the Board of Trade (of which Sir Archibald Williamson, M.P., was chairman). The chief recommendations now made are: That a new body, to be called the Electricity Commissioners, should be set up, to whom should be transferred the existing powers of the Board of Trade, Local Government Board, Local Government Board for Ireland, and the Scottish Office relating to the supply of electricity, with large additional powers. That the Electricity Commissioners, subject to an appeal to Parliament in certain cases, should have general control over the generation and distribution of electricity in the United Kingdom. That the existing system under which electricity is separately generated for small areas should be abolished. That the Electricity Commissioners, after local inquiries, should divide the United Kingdom into districts technically suitable for the economical generation and distribution of electricity. That in each electrical district a district electricity board should be set up, which should purchase all generating stations of authorised distributors. That the district electricity board should be responsible by themselves or their lessees for the future generation of electricity in their district, and for the establishment of new generating stations and proper system for the main transmission of electricity in their district. That existing electrical undertakers, if they so desire, should retain their power of distributing electricity within their local areas, but should purchase electricity in bulk from the district electricity boards or their lessees. That district electricity boards should make no divisible profits, and should be financed in whole or in part by funds raised with Government assistance. That largely extended powers should be granted for the use of overhead wires, wayleaves, and the acquisition of water rights.

At a meeting of the Advisory Council of the Leith School Board recently, Mr. G. Scott, referring to the report of the Building Trades' Sectional Committee, said that scarcely an employer in Edinburgh and Leith in the mason trade had apprentices. He did not think there had been half a dozen apprentices turned out for as many years. Where the mason of the future was to come from he did not know. There was no mason work going on. Mr. Charles McDonald remarked that the mason trade could only be learned on new work, and there had been practically none of that done for a few years now. As far as he was able to learn, there was not a single mason's apprentice in Leith to-day.

Mr. T. H. Mawson delivered an interesting address upon the subject of industrial villages for partially disabled soldiers and sailors at the last weekly meeting of the Birmingham Rotary Club. Disablement, said Mr. Mawson, might roughly be divided into three classes—physical, functional, and what he might term vocational. Mr. Mawson indicated several schemes in which he was interested. The one was the taking of an estate of 500 acres near Grange-over-Sands for the growing of young larch and spruce trees, which the Government would require for their great reforestation scheme. On these 500 acres it was proposed to establish 250 men, the greater number of whom would be married. Then the Storey family had given an estate in Lancaster on which it was proposed to build a factory and to found an industry devoted to children's literature. This would find employment for 326 men. A third scheme was for dealing with a village estate in the Home Counties, where artistic woodwork of one kind or another could be carried on.

Mr. Brace, Under-Secretary to the Home Office, replying last week in the House of Commons to Mr. P. A. Harris, who asked whether any independent technical inquiry had been made as to air raid damage caused in January at the printing works of a weekly journal where many casualties resulted, said:—I understand that inquiry has been made by

technical experts appointed by the Committee of Scientific and Industrial Research. The building had concrete floors over the basement, none of which was pierced by the bomb, which entered the building by a pavement light. The occurrence, therefore, affords no reason for doubting the utility of concrete floors as affording reasonable protection against blind shells, incendiary bombs, and explosive bombs of small size.

A meeting was held at the City Art Gallery in Manchester last week to inaugurate the Manchester Guild of Textile Designers. Mr. H. Cadness (Manchester School of Art) was in the chair. He explained the objects of the guild, which are to raise the status of the designer's profession, to cultivate a greater appreciation for British design than has been so far shown, and to co-operate with the schools in educational development and research. The opinion was expressed that there is quite as much ability among British designers as among foreigners, though in many cases lying dormant. Too often, it was said, the producers of patterns in textiles were wedded to the idea that only French were competent designers. There were those in London, said one speaker, who would not look at a design if it were known to come from Lancashire, but would sometimes accept it if submitted on foreign paper and through a suitable medium.

A story of Richard Strauss's which tilts at the Kaiser's artistic ambitions is recalled by the report that the All-Highest is disappointed with the designs submitted by German sculptors for a statue at Kiel to commemorate the U-boat campaign, and regrets he himself has not had time to design one. Strauss was at a dinner of fellow-composers who were making game of the Kaiser's art works. He listened to the banter for a long time, and then raised his hand in grave protest. "I do not think it is in good taste to ridicule the Kaiser's works in public," said he, "for one can never be sure who composed them."

The Controller of Timber Supplies is arranging a scheme for the rationing of sawn and planed imported softwoods. Firms whose transactions in imported softwoods exceeded an average of 100 standards per annum during the years 1912, 1913, and 1914, and who desire to be included in the scheme, should apply in writing for a form of registration to the Controller of Timber Supplies, Room 113, Caxton House, Tothill Street, Westminster, London, S.W.1. Importers, merchants, and retailers should apply for "Registration Form R.A.," and shippers, agents, and brokers for "Registration Form R.B." Applications for both forms should be made immediately, and not later than June 18.

At a meeting of representatives of Building Trade Employers' Associations throughout Scotland, held in Glasgow, federation of the various sections of the trade was established on a wider basis than has hitherto been found possible. The federation is to be known as the Scottish National Building Trades Federation (Employers), and will be thoroughly representative. Among others, the objects aimed at by the federation are the promotion and protection of the general interests of all sections of the trade, and the establishment of good feeling between employers and operatives. As office-bearers, the meeting appointed Mr. Thomas Graham, Edinburgh, president; Mr. Edward Bruce, Edinburgh, and Mr. George Rome, Kilmarnock, vice-presidents; and a board of management, in which each of the ten trades is represented.

The Bishop of Worcester has issued a notice calling the attention of the clergy to the growing number of large tablets which are being placed in the churches. We have really no right (he says) to occupy the church wall space in this way. The best way to commemorate those who have died in the war is the brotherly way of one memorial for the whole parish, on which the names of comrades can be inserted. For rich persons to occupy the wall space with memorials which cannot be afforded by poorer parishioners is as objectionable as occupying the floor space by large private pews.

The Norwich City Council have decided to increase the salary of the city engineer, Mr. A. E. Collins, by £100.

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*.*Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender: it adds to the value of the information.

CUPAR.—For construction of a water tank at the district asylum, for the Fife and Kinross District Board of Control:—

Strachan, J., and Co., Chance

Inn. Cupar £1,874 11 9

DUNDEE.—For alterations at Ashelife House, for the Dundee Parish Council. Accepted tenders:—

Dick, W. B., mason, £80 ss.; Bladon and Co., Ltd., Glasgow, steelwork, £41 10s. 4d.; Hay, T., and Sons, joiner, £100 18s.; Adam, J., and Sons, plaster, £57 19s. 7d.; Nicoll, G. H., and Co., tilework, £73 5s. 3d.

GLASGOW.—For special trackwork, for the Tramways Committee:—

Hadfields, Ltd., and Edgar Allan and Co., Ltd. (recommended for acceptance).

LEWISHAM.—For tar-painting work, for the Lewisham Borough Council:—

Taroads Syndicate, Ltd., supplying tar and work, 1½d. per superficial yard, and at 1d. per superficial yard, the Council supplying the tar (recommended for acceptance).

SHEPHERD.—For improvement at the Hall Croft, for the urban district council:—

Brown, A. (accepted) £36 5s.

TILBURY.—For supply and laying of about 3,000 artificial stone flags and works, for the Tilbury Urban District Council:—

French, W. and C., Buckhurst Hill, Essex, 6s. 3d. per super. yard (accepted); Croft Granite, Brick and Concrete Co., Ltd., 6s. 4d.; Brown Bros., Grays, 7s. 9d.; Empire Stone Co., Ltd., 6s. 2d. (not including excavation, etc.).

LIST OF TENDERS OPEN.**BUILDINGS.**

June 15.—Removal and alterations for the proposed patents library, Telegraph Chambers, Market Street, Bradford.—For the Corporation.—Drawings on application to the City Architect, Town Hall, Bradford.

June 22.—Tenders are invited by the Tuberculosis Committee of the Cornwall County Council for adapting Tehidy House, Tehidy, as a sanatorium according to plans and specifications to be seen by appointment at the House.—Clerk to the Council, County Hall, Truro.

June 29.—For additions, alterations, renovations, and repairs, etc., at various council schools, Trowbridge, during the summer vacation, 1918, in accordance with plans and specifications prepared by the county surveyor.—For the Wilts County Council Education Committee.—Plans and specifications and forms of tender will be obtainable after May 30 upon written application to Mr. J. G. Powell, County Surveyor, Trowbridge. Sealed tenders, County Surveyor's Office.

PAINTING.

June 14.—External painting of the public library, Hove.—For the Town Council.—W. J. Harrison, Town Clerk, Town Hall, Hove.

June 17.—Cleaning and painting with two coats of best lead paint the outside of the main block of the new Infirmary, Attleborough, Norfolk, the board room block, and all outbuildings, gates, etc.—For the Guardians of Wayland Union.—F. Robinson, Clerk, Watton.

ENGINEERING.

No Date.—For a tank or boiler, about 10 ft. by 8 ft. by 6 ft., for storing water.—For the Guardians of Wolstanton and Burslem Union.—The Master, Guardians' Institution, 2, Turnhurst Road, near Tunstall.

A committee has been formed to carry out a restoration scheme for St. Canice's Church, Kilkenny.

In Halmstorp and Orsta, Sweden, tests have been made to obtain oil from slate, with very satisfactory results. A company has been founded in Stockholm to develop this process.

The death is announced of Mr. J. B. Belton, retired builder, formerly of Gipsy Bridge, which took place at his residence at Teignmouth, Devon, on May 23. Deceased was seventy-five years of age.

Mr. W. Thorne, M.P., is raising a War Memorial Fund of £60,000 for West Ham, the object of the fund being to provide an additional wing to the local Queen Mary's Hospital in memory of the men of the borough who have fallen in the war.

Mr. Gwilym Williams, F.S.I., former deputy surveyor to the Swansea Rural District Council, died recently, aged 29. Mr. Williams volunteered for war service, and was appointed lieutenant in 1915, but through a breakdown in his health had to relinquish his commission.

A very well designed monument to the local officers and men, of Chisbury, Salop, who have fallen during the war has been erected through the generosity of Mr. J. D. Marshall, whose only son is one of those who have made the supreme sacrifice. The memorial consists of a calvary of Runcorn stone, 10 ft. in height, executed by Messrs. Bridgman, Lichfield.

At the annual meeting of the Surveyors' Institution, held on May 27, Mr. John Hubert Oakley, of Messrs. Daniel Smith, Oakley, and Garrard, of Charles Street, St. James's, was elected president for the ensuing year, in succession to Mr. A. L. Ryde. The Institution completes its jubilee this year. Since its foundation in 1868 the membership has grown from 200 to 5,000.

The gross value of rateable property in the City of London is set down at £6,941,653, that in the Inner Temple at £32,083, and that in the Middle Temple at £18,398. The rateable values are:—The City, £5,699,931; the Inner Temple, £26,570; and the Middle Temple, £15,242. A sum of £149,739 is the annual value on which contributions are received from the Government in respect of non-rateable property in the occupation of the Crown.

Mr. Thomas Aitken, M.I.C.E., road surveyor for the Cupar district of the county of Fife for 36 years, died at Nordach Sanatorium, Banohory, on May 20, at the age of sixty-three. In 1907 he gained the gold medal of the Road Maintenance Association of Great Britain, and first prize of 100 guineas. He was the author of a large volume on road maintenance, which went into two editions, and at the time of his death Mr. Aitken was engaged in revising the proofs of a third edition.

CHIPS.

A scheme is being discussed for the provision of a Government slaughter-house at Denbigh, and the borough surveyor, Mr. J. Davies, has been instructed to prepare plans and estimate of cost of a slaughter-house and lairages to be erected on the site of the Old Timber Yard.

Lieut. Alan Howard, of the R.A.F., of Turnard Street, headmaster of Boston Art School, is gazetted Captain, and his name appears in the list of officers mentioned in Sir Douglas Haig's despatch for distinguished and gallant services and devotion to duty. Capt. Howard joined the Army in June, 1916, and has been sixteen months in France.

Mr. Walter Schröder, Coroner for Central London, has been elected president of the Coroners' Society of England and Wales for the ensuing year. Mr. H. Kelway Pope, coroner for Southampton, was elected senior vice-president; Mr. A. M. Forbes, coroner for Middlesex, junior vice-president; and Dr. F. J. Waldo, coroner for the City of London and Southwark, hon. secretary.

Finding that the combined yield of Thirlmere and Longdendale cannot be put higher than 60 million gallons a day, and that the daily consumption of the city last year reached a little over 51,000,000 gallons, the Manchester City Council has resolved to prepare the necessary plans and sections, and to take steps for the promotion of a Bill in Parliament to secure a further supply of water from Haweswater, at a cost of £7,000,000.

A detailed, scientific report on Portland cement of Indian manufacture, by Mr. H. A. F. Musgrave, Superintendent of Local Manufactures and Government Test House, Alipore, is published by the Government of India Munitions Board. Mr. Musgrave finds that Indian Bundi and Katni cements, as at present manufactured, are equal to the best English brands, also that the same is true of Porbandar cement, except as regards its tensile strength, which is somewhat low.

The London County Council has determined to widen Wellington Street and the Strand, at the southern junction of those thoroughfares, at a cost of £87,500, with subway approaches. The Westminster City Council will contribute £14,585. The improvement is a much needed one, though the increased facility for traffic over Waterloo Bridge will probably tax in a greater degree its capability, and possibly at no distant date compel the widening thereof.

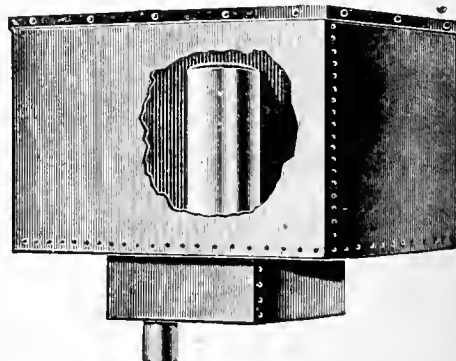
Mr. Hall Caine has been made a Knight-Commander (K.B.E.). Since the beginning of the war Mr. Hall Caine has devoted himself to literary work on behalf of the Allies, principally in foreign countries. He has written in various Italian journals until Italy came into the war, and in American journals before the United States joined the Allies. He edited King Albert's Book on behalf of the Belgians, and prepared the scenario of the National War Film, which is being produced by the Ministry of Information, and wrote a book about women's work in munitions factories on behalf of the Ministry of Munitions, in addition to much other valuable literary work. Sir Hall Caine was brought up as an architect, and was a welcome contributor to our own columns in the early sixties of the last century.

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THE BUILDING NEWS

AND ENGINEERING JOURNAL.

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OUR ILLUSTRATIONS.

A Church Interior, looking east. Mr. Paul Waterhouse, M.A., F.R.I.B.A., Architect.

Heath Lodge, Headley, Surrey. Entrance front and detail of the porch. Photographs. Mr. E. Guy Hawker, F.R.I.B.A., Architect.

Housing of the Working Classes, England and Wales, Manchester and Liverpool areas. Cottages for rural districts. Designs by Messrs. Briggs and Thornely, Architects, of Liverpool, for A, B, and C types.

Corrente Calamo.

A "comedy of errors" can almost always be found in the law reports by those who appreciate legal humour as shown in the dry light of the Law Courts. The recent case of "Roe v. R. A. Naylor, Ltd.," which was all about a builder and his timber, is full of instruction for those interested and of amusement for outsiders. The long story begins with the call of a traveller of defendants, timber merchants, on the plaintiff, a builder, to get orders. Price lists produced, various items marked by the plaintiff, verbal order given. Traveller took away list and said nothing about condition that defendants could only deliver the goods if they had them. Then the timber merchant's man casually called and left with plaintiff a printed form of sold note, which looked all right to the builder as to quantities. Later on defendants found out they had already sold some of the wood bought by the plaintiff, and then the fun began. Plaintiff sued defendants in the County Court for damages for their breach of contract in failing to deliver the goods as verbally ordered. The defence was to produce the sold note, which showed a war-time condition in small type printed along the side margin that the contract would only stand if the defendants had the timber left on hand. County Court judge held that plaintiff never saw or read this, and that defendants did not bring it to his notice, so he gave judgment for the plaintiff with £41 10s. as damages. On defendants' appeal, High Court held that there was no duty on a seller to show buyer condition in contract, and they sent case back to County Court for a new trial. There the judge again found for the plaintiff, holding that the small print condition might have been missed by any business man. Defendants again tried an appeal to the High Court, and when this was dismissed, they went to the Court of Appeal, which has now, so far, finished the fight. There the Lords Justices held that the verbal contract made by plaintiff with the traveller was proved and was made without any condition as to delivery. So the appeal failed, and plaintiff holds his judgment. As to the sold note, with the condition which was not in the verbal arrangement, that would have been bad in law had the defendants

pleaded the Sale of Goods Act in the County Court, which they had not done. In the end the plaintiff wins hands down, and the defendants are left to pay for two trials in the County Court, two appeals to the High Court, and one to the Court of Appeal as a grand finale. The costs thus incurred will make the damages quite a minor matter. The muddle is plain, and so is the moral. All this litigation would have been saved if the traveller had pointed out to the builder the small print condition, but, then, he might not have got the order.

The Whitley Committee on the Relations between Employers and Employed have presented a further report, which is now published by Dr. Addison, Minister of Reconstruction. It deals with conciliation and arbitration. The Committee pronounce definitely against any system of compulsory arbitration, on the grounds that it is not generally desired by employers and employed, that it has not proved a successful method of avoiding strikes during the war, and that it would be less likely to be successful in time of peace. They also pronounce against any scheme of conciliation which would compulsorily suspend a strike or lock-out pending an inquiry. The Committee advocate the continuance, however, of the present machinery for voluntary conciliation and arbitration, and hope that the setting up of Joint Industrial Councils (on the lines recommended in their earlier reports) will tend to the growth of such machinery. They consider that there should be means for holding independent inquiry into the circumstances of a dispute and for making an authoritative pronouncement thereon without the compulsory power of delaying the strike or lock-out. Their main constructive suggestion is that a Standing Arbitration Council should be established on the lines of the present temporary Committee on Production. To this Council disputants would be able voluntarily to refer such differences as they are themselves unable to settle. It is suggested, however, that single arbitrators should be available for less important cases which could be heard locally. It is further suggested that the Standing Arbitration Council should take means to secure the co-ordination of arbitrators' decisions. The Committee are opposed to the enforcement of awards and agreements by means of monetary penalties. The

report is available from H.M. Stationery Office, Imperial House, Kingsway, W.C.2, price one penny. The recommendations are reactionary and opposed to facts. At recent Trade Union Congresses the vote in favour of compulsory arbitration has been steadily growing. It has been as successful in New Zealand and Australia as could reasonably be expected here. The preference of the Committee for single arbitrators is simply in favour of more soft jobs for friendly nominees of the sort that increase daily. We shall all be such presently if we take care to do as little as possible for our salaries and copy the routine of the Circumlocution Office!

There is some talk, according to the *City Press*, of one of the more ambitious minor Guilds taking a step in the direction of the education of the craftsman. It is about time all the City Guilds did something to justify their existence. As our contemporary says: "All along the advocates of development have been met with the parrot cry that the City and Guilds Institute provides all that is wanted. That, however, is very far indeed from being the case. Good as is the work the Institute is doing, it fails signally to cover the ground of craft activity, and to give the Guilds the opportunity of reassociating themselves in any adequate degree with the industries they controlled in days now long gone by. Moreover, the fact has to be remembered that the Guilds, as a body, have never allied themselves whole-heartedly with the Institute. From first to last only forty Guilds have subscribed to the funds. Last year the number contributing was just twenty-five. Of these only eight gave £1,000 or over, only two £500, one £273, one £262 10s., two £250, and five others between £100 and £215. Can this be regarded as adequate support?" Much more interest seems to be taken in the vacancy in the City for an Ale Conner caused by the death of Mr. Ponting. By the way, what are the present duties of an ale conner in the City, and are they only acquired by technical education? Does he get free drinks to test—when there is any beer about, and is he empowered to "con" the Government Ale?

We are very glad to learn from the June "News-Sheet" of the Bribery and Secret Commissions Prevention League that 130 new members have joined this

year, thanks in no small measure to the efforts of Lord Leverhulme, who has become a vice-president. Every firm of any standing should join, and we think all representative architectural societies and builders' associations, if only as a matter of self-defence, for there never was a time when bribery was more rampant than now; and the honest merchant and manufacturer stand very little chance in competition with the unscrupulous scatterers of diamond and sapphire bracelets and other gifts of the like value. The Im-mingham Dock case which recently ended is notable for its painful evidence that the evil is so acute, as counsel admitted, that it is scarcely regarded as such, even by people who are honest in other things, so handicapped are they by its wide prevalence.

We hope that the impracticable idea of putting up a joint building on the Piccadilly site to meet the needs of the Art Gallery and Libraries Committees of Manchester may now be said to be definitely abandoned, for the two committees have come to the conclusion that such a building would be impracticable, even if there were room for it on the site. In these circumstances it seems likely that the Art Gallery Committee, with the full consent of the Libraries Committee, will adhere to their plan for the erection of an art gallery worthy of the city on the site of the old infirmary. Everything, of course, depends upon the view which the city council may take of the matter, and the past history of its behaviour with regard to the matter is, of course, a bad one; but we are convinced that the sensible members and others who have striven to convince the citizens of Manchester that the course of action they have advocated is the only one worthy of the city will still carry on the fight till all factious opposition collapses. That, so far, this is not certain seems apparent from a subsequent letter in the *Manchester Guardian*, from which the above is condensed, stating that the Libraries Committee have *not* relinquished their claim on the Piccadilly site for a new central library.

A report comes from Canada of a somewhat novel basis of action by a firm of contractors against a local authority for damages, which should be quietly noted here against the democratic coming times, when the referendum will doubtless be the final consenting agent, if only in the lack of initiative manifested by most of our municipal bodies. The acting chief justice has rendered judgment at St. John's, Quebec, in the case of Quinlan and Robertson, Limited, v. the Cities of St. John's and Iberville. The company claimed \$70,945.95 damages for non-fulfilment of a contract they received for the construction of a new bridge over the Richelieu River. The contract had been annulled owing to the irregularity of the cities concerned in not having the project sanctioned by plebiscite. In the circumstances the court held the cities were liable in damages towards the contractors,

as the municipalities had neglected to make procedure regular before awarding the contract to plaintiffs. Damages were assessed at \$24,297, with interest and costs.

RATIONAL HOUSING.

It is, so far, satisfactory to observe that not a few more level-headed people are waking up to the desirability of trying to solve the house-shortage problem on somewhat more rational lines than the well-meaning but short-sighted enthusiasts who want us to plunge neck and heels into schemes which bristle with all and more than the possibilities of waste and failure which have so woefully increased the national expenditure on war buildings, which has so materially added to the huge load of debt which will cripple several generations and evoke useless but well deserved denunciations of the bad statesmanship and reckless finance which are at once the wonder and despair of all capable of perceiving the ignorance and folly by which it is characterised. To all who are manfully doing their best to set right principles of action before those on whom responsibility rests the fullest recognition of their efforts is due, and among these we heartily congratulate Mr. J. W. C. Atkinson, who has written one of the most sensible little books we have read on "The Housing Problem," just published at a shilling by Pery Lund Humphries and Co., Ltd., of the County Press, Bradford, and 3, Amen Corner, London, E.C.4. The book has been written with special reference to a scheme at Bradford, which appears to enjoy the approval of one of the local Councillors, Mr. E. J. Smith, who seems to have spent lately a considerable amount of altruistic oratory on its advocacy in evident ignorance of the fact that eloquence and sentiment are of little real benefit unless the course of action they champion is so far in accord with the facts of human nature as ascertained by past experience as to afford reasonable hope that they will benefit and elevate the people and not demoralise them. We know little about the Bradford scheme, but from the pertinent and unanswerable objections Mr. Atkinson offers to Councillor Smith's adjurations we are as convinced as we think any sane reader of the book before us will be that Bradford will have little to thank Mr. Smith for twenty years hence if the lines of action he favours are to govern its inception and adoption.

Just because we know too well that in scores of other places building schemes of a like nature will presently be launched into operation, the majority of which are foredoomed to be costly failures, we entreat all likely to be concerned with them to buy Mr. Atkinson's book, and to try to master the only sound basic principles which should guide such. As he points out, the present undoubtedly real and urgent demand for houses is put forth under three heads. First, there is the real and legitimate demand for a house which will accommodate the tenant and his family in the manner customary in the class to which they belong, and at a rent which he can afford to pay. Next, there is the demand that the house shall be within a reasonable distance of the tenant's place of employment. Lastly, we have the demand—not usually made by the tenant himself, but by various other persons, who for various reasons—some of them wise, and some foolish, think that houses should possess certain qualities of things which the tenant does not ask for and does not like to pay for. Now, the two questions most necessary to be answered in connection with these

demands are, first, are these demands reasonable or not; and, secondly, have they been reasonably met, and, if not, why not? Many advocates of "Housing Reform," without considering the above questions, insist that private enterprise has failed to meet the demand for houses, and that those who have heretofore supplied over 95 per cent. of the houses have ceased to do so from unworthy motives. Those who have been engaged in the production of houses in the past may be divided into two classes: the builders (we will call them), consisting of architects, contractors, suppliers of building materials, artisans, etc., who actually produce the houses; and those individuals who invest their savings in the houses so produced—the owners. It is not claimed that builders or owners are any better in any way than any other section of the community; in fact, bad owners are found in all sections of the community; but it is claimed that both builders and owners are as good, and that they perform all the duties of citizenship as well, as the individuals composing any other section of the community. Further, it is claimed that both builders and owners have the right to receive for their labour, capital, and risk, remuneration equal to that received for like services by the producers of other commodities for the use of the community; and if by force of circumstances they do not receive such adequate return they are as little worthy of blame as other producers or traders who cease to pursue an unproductive calling.

Let us, then, take the demands before tabulated. Undoubtedly the first is a reasonable one, and, as assuredly, up to about 1911 it was reasonably met, as Mr. Atkinson's facts and figures prove. Mr. Smith's contention that builders keep the provision of houses low to ensure a scarcity that secures high rents is moonshine, as Mr. Atkinson shows. The second demand is also a reasonable one, especially just now, when the shifting of workpeople from one place to another to meet war exigencies has in some measure evoked it; but as a permanent demand it was reasonably met up to 1911. The third demand is only reasonable to a limited extent; and, so far, has been met. In many places it has been met unreasonably, with constantly increasing reluctance and perniciously to all concerned. Mr. Atkinson emphasises this accurately enough. As he remarks, when a demand is made on a builder for some "thing" in connection with a house, he has to consider whether the thing, if provided, will give some amenity to the house, making it more attractive in the eyes of the average tenant, or whether it will make the house less costly to keep in repair, and thus make it more attractive to a purchaser. If it will do neither of these, or if the cost of the thing in the eyes of the tenant or purchaser outweighs the advantages to be gained, then the builder will not provide it, because he knows he cannot recoup his outlay on it either by an increased rent or an increased price on sale to a purchaser; in other words, if he did provide the thing, he would have to lose the cost of it, or the difference between the cost of it and the money value put upon it by the tenant or purchaser. Now, if the builder is compelled by law to provide the thing, other builders will be compelled to provide it too (i.e., if the law be administered to all alike), and he may therefore, if the demand for houses be strong enough, be able to recoup himself for his outlay by increasing the charge to the tenant or purchaser. But if his house has to compete with older houses in the same or adjoining districts which do not possess the thing, or with new

houses in adjoining districts which are not required by law to possess the thing, he will not be able to recoup himself for his outlay. All classes of tenants, as Mr. E. J. Smith has found out in the case of slum tenants, do not appreciate, and will not pay for accommodation or amenities which are not customary in their class. Building regulations, both those imposed on existing buildings and those made to be observed when erecting new buildings, embody demands of the nature considered under this head. The regulations may concern themselves with sanitation, structural stability, aesthetic considerations, or other matters. Before drawing up such regulations it should be clearly proved that the ends proposed are desirable, and that in order to obtain these ends it is necessary that compulsory regulations be made. And further, the regulations ought to demand what is necessary, and not more than is necessary, in order to attain the ends aimed at. Nor should they demand much beyond what the general body of tenants or owners recognise as necessary or advisable; otherwise, as has just been shown, the builder cannot observe the law and continue to carry on his business, i.e., the building of houses will be stopped. Also building regulations, almost unavoidably, tend to stereotype, what is considered by the person drawing them up, the best practice at the time they are drawn up, thus materially interfering with progress in building. An example of this recently has been seen in the delayed introduction of ferro-concrete. To draw up a set of building regulations suitable for the materials used and the requirements of a single district, is no easy task; but to draw up a model set, suitable for all districts, is about as difficult and as useless as to draw up one specification prescribing the weight, fineness, etc., of all textiles, whether they are to be made of silk, wool, cotton, or china grass. The tendency has been for some considerable time to make building regulations more detailed and more stringent in their enactments, and also for their administration to become more inelastic. The Local Government Board are always trying to force their model regulations on local authorities, ignoring the different materials and requirements of the different districts. The requirements of the various building regulations have generally been complied with by builders without much resistance on their part. The builders have doubtless felt in many cases that they were being compelled to do something which was either unnecessary or unnecessarily expensive, and no doubt many of them, when they have demurred on the ground of excessive cost, have been told both by officials and committeemen with a somewhat superior air of clever finality, "cost is not a matter which the authority takes into consideration."

We all know what the real contributing causes of the shortage of houses have been. Mr. Atkinson lists them with perfect truth:—

1. The fall of rents after the over-building period of about 1900—rents falling to less than the current rate of interest on the cost of production.
2. The increase in the rate of interest on capital from about 1900 onwards.
3. The increase of local rates.
4. The increase in the cost of building materials and labour from about 1911.
5. The increasing stringency of the Public Health Regulations and the inelasticity shown in their administration.

In addition, the oft-quoted clauses in the Budget of 1909 had a very definite effect, as the next tables show. It was claimed by the supporters of the bill

clauses in the 1909 Budget that they would go a long way to solve all housing questions. And they did, but not in the way contemplated. The difficulties of builders and owners were brought to a head by those clauses. The builders felt that if, in addition to the numerous difficulties they already had, their profits were to be liable to increment value duty, as they might be under the Lumsden decision, they would get out of the business of house-building, as it had become too risky; and the owners felt that if in addition to the harrying by officials and tenants, they were to be subjected to taxation of uncertain amount on their investments, with prospects of considerable increases in such taxation in consequence of political agitation, they had better invest no more of their money in such doubtful securities as house property, unless they themselves wished to live in the houses.

Years.	Number of Houses erected in the years named in forty of the largest Municipal areas in England and Wales.	Number of New Houses certified as fit for human habitation in the years named in the City of Bradford.
1901	32,773	967
1902	33,782	1,023
1903	34,235	1,238
1904	31,778	1,458
1905	32,165	1,057
1906	29,665	655
1907	27,492	637
1908	23,773	486
1909	22,829	476
1910	20,696	626
1911	16,526	396
1912	13,600	393
1913	13,067	349
1914	11,726	394
1915	7,026	306
1916	3,509	128

From the table it is clear that the year 1903 was a year of maximum house-building in the forty towns, and that the year 1904 was a maximum year for Bradford. House-building proceeds in waves; the census reports of houses, inhabited, uninhabited, and being built, indicate that there were wave "summits" near the census years 1881 and 1901 and "troughs" between 1881 and 1901, and between 1901 and 1911, or at least that a trough would be expected in the neighbourhood of 1911. The wave of house building should have been rising from about 1911, and no doubt would have risen if it had not been for the increasing pressure put upon builders and house owners, and the damaging blow given to house property as a security by the Budget of 1909. The effect of the blow is clearly shown by the rapid decrease from 1910 in the number of houses built, although 1910 was about a "trough" year in the ordinary wave of house building. So far as builders are concerned they are always ready to build anything that people will pay them for building, and the better the house they are asked to build the more they enjoy building it, in fact they are the very people who will have to be employed on constructing our model villages if they ever materialise. And so far as owners are concerned they will provide capital for any class of house, fitted in any fashion, and provided with all the amenities that the housing reformers think they should have, if they can get the same return for their capital with equal security that they could if they invested it elsewhere. The common statement in advertisements of houses for sale that they "command a good class of tenants" is clear evidence that investors prefer houses which are provided with such amenities that they attract a self-respecting class of tenants, and naturally house builders

prefer to build houses for which they can most easily find customers. Competing house builders are in closer touch with the tenants of houses than either officials or members of local authorities can be, and are as alert as most business men in discovering what their customers make an effective demand for. If house builders do not supply any particular amenity which housing reformers think necessary it is strong evidence that there is no effective demand for it; i.e., the tenants are not prepared to make the necessary sacrifice in order to obtain it.

We have not the space in which to deal with Mr. Atkinson's strictures on Councilor Smith's scheme for Bradford, but we hope all who get the book will read them carefully, and see how far they apply, as they undoubtedly will in many respects, to similar enterprises which enthusiasts are urging for adoption in other districts—in some unnecessarily, in others prematurely. All will do well also to ponder carefully his scathing but perfectly true comparison of the results in other matters, such as gas, electricity, water supply, and transit achieved by much-despised "private enterprise" and public service! His remarks, too, on the financial aspect of the question are sound and to the point. His final conclusions, which are really a summary of those we have urged again and again, are, and we once again repeat, the only ideas that can ensure success if an adequate supply of suitable houses for the people is to be obtained quickly as well as economically.

1st. To avoid extravagant schemes brought forward, not so much for the purpose of housing the people, as to advance certain political theories.

2nd. To revive the confidence of investors in house property as a security, by amending, or better still repealing, the land clauses in the Budget of 1909; and by discouraging unreasonable attacks on builders and owners of houses, who, it must be remembered, have carried on their businesses in a similar way, and with the same objects, as other classes have in supplying the various wants of the community.

3rd. To amend the building regulations and administer them in a more elastic fashion.

4th. To arrange the system of subsidies to defray the extra cost of building houses at war prices, in such a manner that the source of supply, which is the largest by twenty-fold, and the most economical, shall not be cut off.

THE INSTITUTE OF SCOTTISH ARCHITECTS.

ANNUAL CONVENTION.

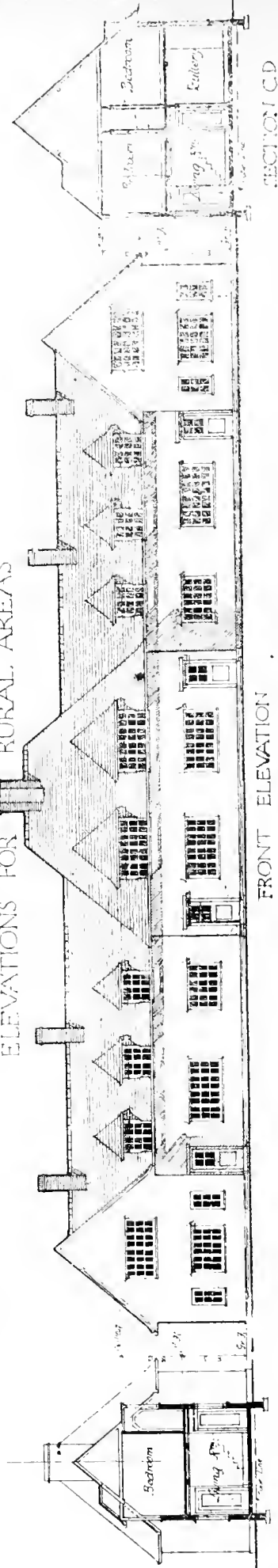
There was a large and representative attendance of architects from the various parts of Scotland at last Thursday's annual convention under the auspices of the Institute of Scottish Architects—which took place in the Glasgow Art Club Rooms, Bath Street, Glasgow. Sir John Burnet, the retiring President, was unable to be present owing to illness, and the chair was occupied by Mr. T. F. MacLennan, of Edinburgh. Apologies for absence were also intimated from several other members, and Sir R. Rowland Anderson, in a letter stating that on the advice of his medical adviser he had regretfully to give up his intention of being present, dealt briefly with a few important points. He expressed much regret that the continued indisposition of Sir John Burnet deprived them of his more active co-operation, and he congratulated the Institute on their forthcoming selection of Mr. William Kelly, of Aberdeen, as his successor. He proceeded to refer to the question of application for a Royal Charter for the Scottish Institute, and in this connection Sir Rowland pointed out that, in view of the Royal Institute being the

HOUSING OF THE WORKING CLASSES
IN ENGLAND & WALES

CLASS "A"

MANCHESTER & LIVERPOOL AREA

ELEVATIONS FOR RURAL AREAS



FRONT ELEVATION

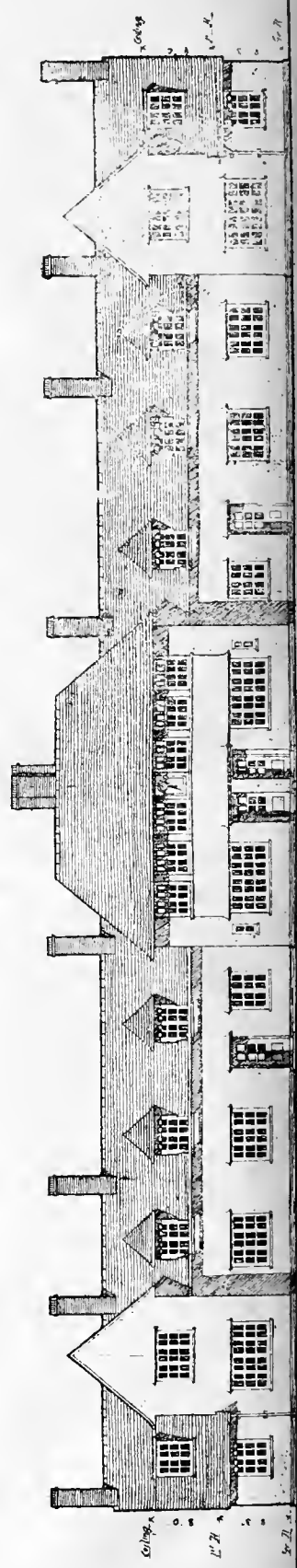
BACK ELEVATION

HOUSING OF THE WORKING CLASSES
IN ENGLAND & WALES

CLASS "B"

MANCHESTER & LIVERPOOL AREA

ELEVATIONS FOR RURAL AREAS



FRONT ELEVATION

Royal Institute of *British Architects*, this was a subject which should be handled with great care and tact. At the time the Royal Institute was formed he presumed that Scotland was a negligible quantity, but now things were different. Sir Rowland also referred to a paragraph contained in the annual report dealing with the housing of the working classes after the war, and pointed out that no proposals for dealing with the cost of the land were therein indicated. They could not, in his opinion, build cheap and good houses unless this question of the cost of the land was properly settled, any more than that they could make and sell a cheap loaf if the flour was dear; therefore, he thought that the Institute should give the lead in all questions referring to this important subject.

THE CHAIRMAN'S ADDRESS.

In the course of his address Mr. Maclellan said:—"There is a subject which has been exercising the minds of architects, particularly across the Border, very much of late, and which has been called 'The Unity of the Profession,' a subject on which even the youngest and least experienced among us may have something to say. In the first place, then, let us not flatter ourselves over-much on what we have accomplished. We may say that while our friends over the Border have been talking we have been acting, and that we have accomplished a union such as has never been in our land before. But 'let not him that girdeth on his armour boast himself as he that taketh it off.' There is much hard work to be done if we are to solidify and strengthen this union and make it of real and lasting benefit to the profession. Let us consider for a moment the nature of the units whom we are trying to unite. It goes almost without saying that we are trying to unite men who are as the poles apart from one another in knowledge, attainments, and aspirations. We have men in the profession who have devoted their lives to the study of ancient architecture, intensely interested in everything which sheds light on past architectural history, men who can add little bits here and there to an old Scottish castle which will look as if they had grown there, or restore to an old cathedral something of its ancient beauty, and who care not whether the job is a £500 one or a £10,000—it gets their entire devotion and loving care for the time being. On the other hand, we may have an architect who is primarily a business man, with a sound knowledge of building construction and the qualities of materials, and more keenly alive to the value of 6 ins. in a mutual gable than in the exact historical niche which the building they are dealing with fills. And between and beyond these you have dozens of others alike only in one thing—and that is that they differ from everyone else. And these are the men whom we are trying to unite. Is it possible? Now, I do not for a moment mean to suggest that these qualifications to which I have referred are mutually destructive or that they cannot exist in the same person, but I do not mean to say that many of us have one set of qualities and accomplishments to the exclusion of others equally important for some particular phase of our professional work, and that consequently we may look upon questions of professional policy from widely different points of view. Add to this that pestilential microbe which is by no means confined to our profession or to all the professions, but afflicts and is foolishly nursed and encouraged by mankind—I refer to professional or trade jealousy—and you may well ask, 'Is it possible for us to unite for our mutual benefit?' I maintain that it is not only possible but necessary if we are to fulfil our proper function in the national life. All the great styles or phases of styles in the past had been of national and not individual growth, and if our art is ever to come into its own again we must neither hold aloof from the rest of mankind nor from each other. The education of the young architect of to-day is, generally speaking, vastly superior to what it was twenty-five to thirty years ago; but there is still much room for improvement and co-ordination, and this our Education Committee have set themselves to do. That is our first and most urgent business."

Continuing his comments the Chairman next referred to two suggestions on the

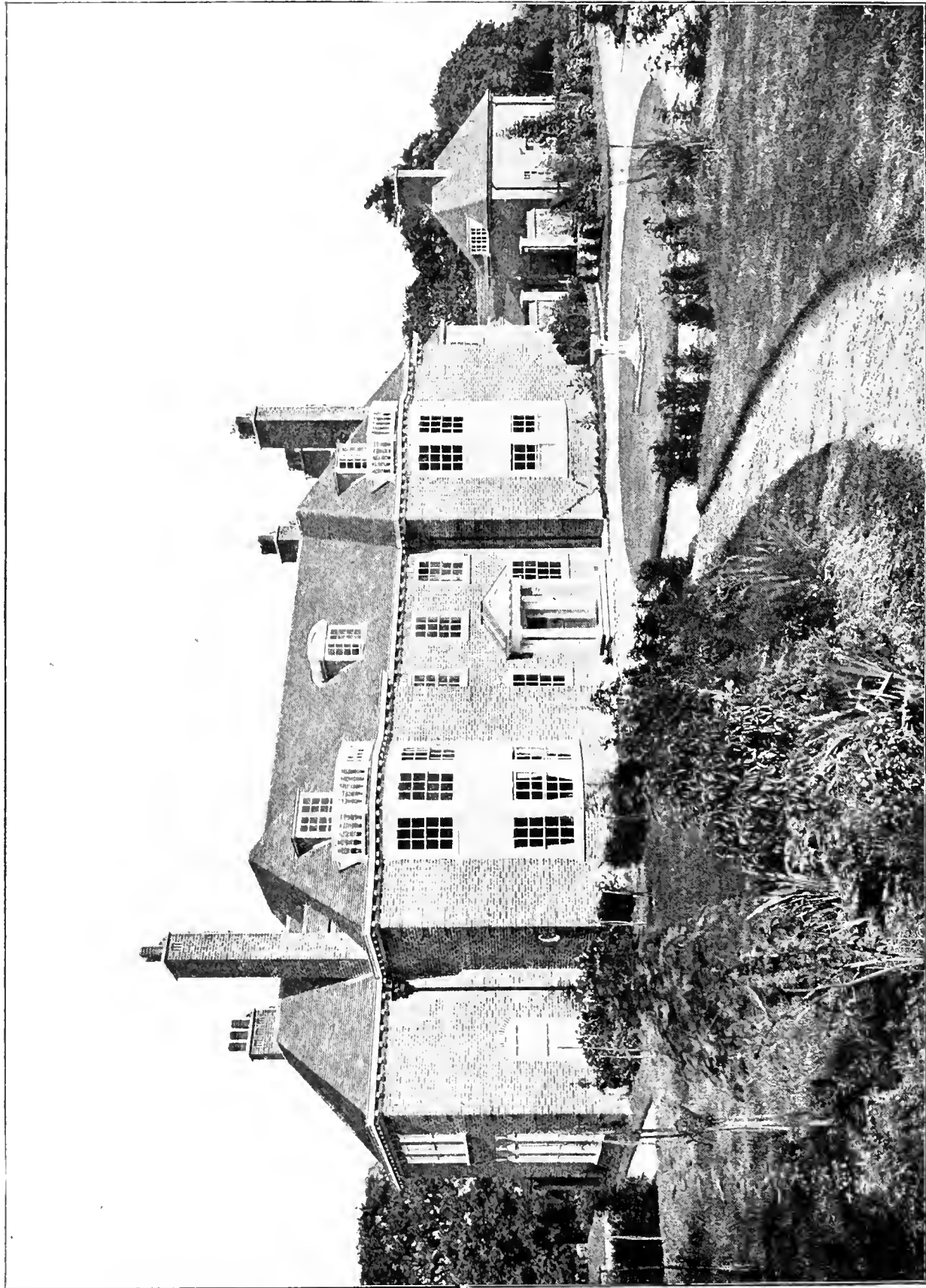
general subject of unity among Architects which had emanated from London recently, and first of all he mentioned that the Special Committee of the Architects' Re-organisation Committee had just issued a report on the unification of the Architectural profession. Briefly, he said, their proposal was with regard to the formation of a permanent Council of Control, the personnel of which would consist of representatives of all sections of the profession, and this Supreme Council of Control would deal with all controversial questions whether arising within the profession or outside of it, and would become the mouth-piece of the architectural world in its dealings with the public. They would also deal, apparently, with the conduct of competitions, conditions of contract, scientific construction, strength of materials, etc., and issue reports upon all such—which pronouncements, they were told, would have much greater weight than the probable diverse pronouncements of two or three of the present smaller bodies. The result of all this, to the speaker's mind, would only be confusion worse confounded. If the proposed Supreme Council was to carry out all its functions as sketched above, it would require to meet very frequently. Where would it meet and where would men in private practice find time to come from the ends of the country to attend such meetings? Again, if the smaller bodies already in existence had come to a decision regarding any of the subjects mentioned, were they likely to accept an adverse decision of this Supreme Council on a matter on which practice probably varies very much in different parts of the country? And, again, how were "outside" architects to be represented on such a Council? They would have to form a society of their own before they could elect one of their number, and by the fact that they had held aloof from existing societies they had shown either their own consummate selfishness or their natural aversion to the rule of majorities—a perfectly reasonable standpoint, but one which would make them still more averse to anything in the nature of a representative Supreme Council. He had no objection to a Supreme Council, but its powers would, he thought, require to be restricted to matters of general policy, and great latitude would require to be allowed to the smaller societies in different parts of the country to make laws for themselves and carry on their business in their own way. And the same thing applied to their own Institute. The Institute Council was the Supreme Council of the architects of Scotland, and the area was not too large to make its own rule effective and of invaluable benefit to the profession. The whole weight of its influence and authority could be brought to the aid of its members when they were up against a local Authority or a Government Department. On the other hand, there must be no attempt to force any particular policy on members throughout the whole country. The various Chapters or districts must have a generous measure of Home Rule, but, on the other hand, there must obviously be no attempt on the part of any district or districts to force the Institute as a whole to adopt a policy against the wishes of the other districts. They must be prepared to make sacrifices for the sake of unity, and the greater good that would come from unity and co-operation, but, if they could not agree, they must agree to differ and allow each district to govern itself in accordance with use and wont.

Drawing his address to a conclusion Mr. Maclellan said: "The other suggestion for obtaining the much desired unity among Architects to which I referred as emanating from London is to be found in the report of a recent debate on this subject in the R.I.B.A. Journal. The suggestion was to the effect that there should be two Societies or Institutes of Architects with separate functions—the one (say, the R.I.B.A.) should confine itself to the advancement of our Art, and the other (say, the Society of the Architects) should confine its activities to the professional interests of its members. Here you have two definite grounds of appeal to architects, and verily they would divide the sheep from the goats. I do not imply there is anything to be ashamed of in looking after

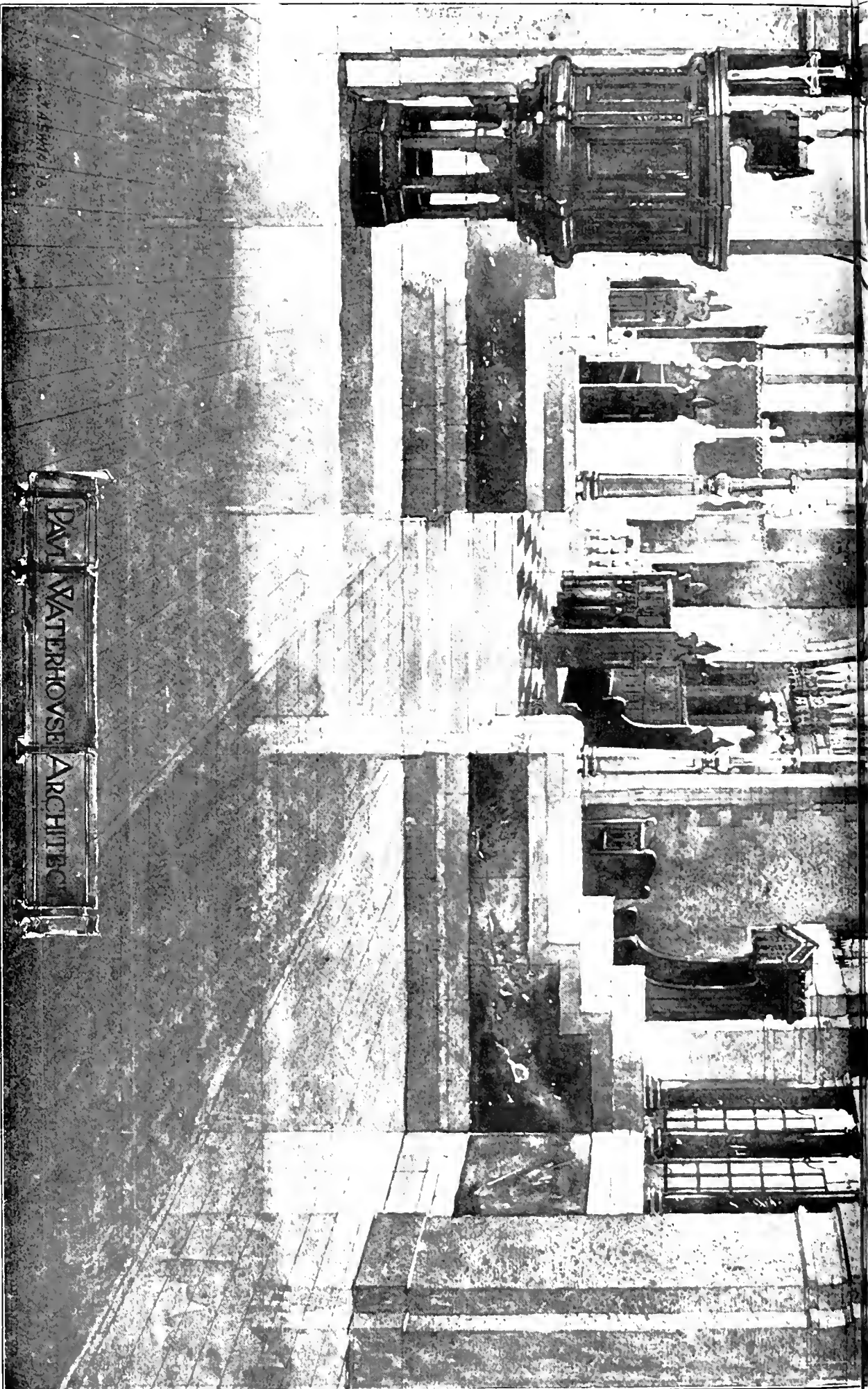
the interests of our profession—far from it—but to set up a separate Society with this avowed purpose seems to me the height of absurdity. There is no reason, for instance, why we should allow the public, and in consequence the Government, to remain under the delusion that we are not practical men, and that the only practical men are tradesmen and engineers. It was Disraeli I think who said 'the practical man is the man who practises the errors of his predecessors,' and in this sense we may leave others to claim to be the only practical men if they choose. But we know that in general knowledge not of one trade or one form or construction but of many, very few tradesmen or engineers can equal the experienced architect, and that this knowledge and experience gives him confidence and initiative in dealing with the multifarious problems that come before him for settlement. There is no reason why we should hide this fact, but the mere advertising of it is not sufficient. The greatest drawback to our profession is the incompetent architect, and the fact that there is nothing to prevent anyone who can draw lines on a paper to call himself an architect if he chooses. We can only safeguard ourselves and the public by increasing our own efficiency to deal with the changing problems of to-day, and this we can best do by raising the standard of education for the architects of the rising generation. If we look after the advancement of our Art and the study of our Science (for Architecture is both) the interests of our profession may safely be trusted to keep abreast of them.

At the conclusion of Mr. Maclellan's address there was hearty applause from all parts of the hall, and thereafter the Secretary (Mr. W. Glassford Walker, C.A.) submitted the annual report of the Council, and this stated among other things that, owing to the war, the request for the services of architects had been steadily decreasing, but it was confidently expected that on the cessation of hostilities the profession would have plenty of work entrusted to them. The Council had accordingly been looking ahead and preparing for that period of activity, and for the return of the younger members of the profession. The Council's proposal to make application for a Royal Charter (continued the report) had received the approval of all the Chapters, who had expressed a willingness to contribute ratably towards the cost, and the matter had been reported to the Royal Institute of British Architects whose support the Council were desirous of obtaining and thus to continue the friendly and intimate relations already established with that body. The Council approved of granting a diploma to the members of the Institute, but they considered it inadvisable (in the meantime, at least) for members to make use of initial letters indicating their membership of this Institute. The Council had devoted much time and attention to the subject of the housing of the working classes after the war. They approached the Local Government Board, offering suggestions as to how best designs might be obtained for such schemes, and the Board received more than once representatives from the Council to discuss in particular the method of carrying out the competition for designs of houses and the laying-out of sites. The Council were of opinion that their action in this matter had gone far in furthering the interests of the profession, while the result would be undoubtedly to the benefit of the whole community. When the proposal to establish a war memorial in Edinburgh Castle was made public, and the Secretary for Scotland announced his intention to form a Committee to deal with the matter, he was asked by the Council to appoint one or more members of the Institute to that Committee, as representing the architectural profession, who were eminently qualified to deal with such a matter. The subject was referred to in Parliament, and there was reason to believe the request will be granted. In November, 1917, a circular letter of greeting and encouragement was sent to each of the members on active service assuring them that their self-sacrificing work in the nation's cause was recognised with gratitude by the Institute, while in all the deliberations and actions of the Council the professional interests of such members were being constantly kept in view.

(Continued on page 444)

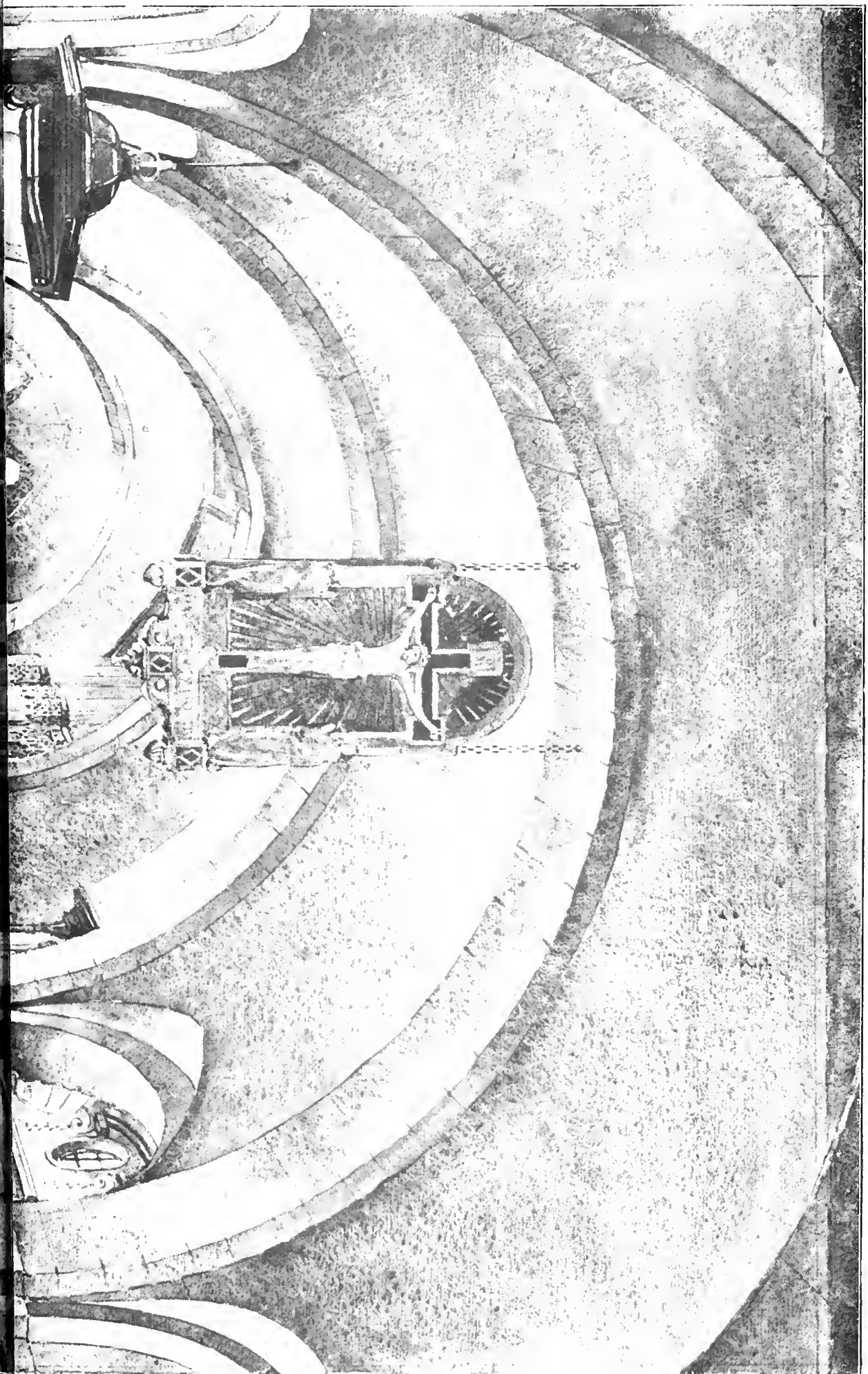


HEATH LODGE, HEADLEY, SURREY: ENTRANCE FRONT.—MR. E. GUY DAWBER, F.R.I.B.A., Architect.



A CHURCH INTERIOR, LOOKING EAST.—MR. PAUL WATERHOUSE, M.A., F.R.I.B.A., Architect.

THE BUILDING NEWS, JUNE 19, 1918.





HEATH LODGE, HEADLEY, SURREY: THE PORCH.
Mr. E. Guy Dawber, F.R.I.B.A., Architect.

Our Illustrations.

A CHURCH INTERIOR, LOOKING EAST.

The interior view now exhibited at the Royal Academy by Mr. Paul Waterhouse, M.A., shows an illustration of a design he has prepared for the completion of a church of which at present the chancel only exists. The intention is—in erecting the nave—to extend the sanctuary westward beyond the present chancel arch, the marble screen being the new boundary. A very severe and quiet semicircular ceiling marks the motive of the nave, which is to seat about 100 people. The organ case, chapel screen, pulpit, rood and other ornaments shown in this drawing are, of course, portions of Mr. Waterhouse's design. The eastern window already exists. The church is part of a group of buildings which will include parish hall, club rooms, etc., standing round a garden courtyard in a town. The perspective was made for Mr. Waterhouse by Mr. J. A. Swan.

HEATH LODGE, HEADLEY, SURREY.

The pair of photographs here given are now at the exhibition of the Royal Academy. Mr. E. Guy Dawber, F.R.I.B.A., is the architect. Heath Lodge has been erected a few years. It is in brick, with white woodwork and tiled roofings. The views shown were taken soon after the building was completed.

HOUSING OF THE WORKING CLASSES, ENGLAND AND WALES: MANCHESTER AND LIVERPOOL RURAL AREAS.

This double page sheet of cottages designed by the first prize-winners in Class B, Messrs. Briggs and Thornely, of Liverpool, illustrates the variations which they submitted in adapting their designs for rural areas, and as alternatives to their schemes under Classes A, B, and C. We gave their £100 prize set of cottages for type B in the BUILDING NEWS for April 24 last, accompanied by some descriptive particulars. Other similar drawings for Classes A and C will be found in our issues for April 10 and 17 respectively, designed by the same architects.

THE INSTITUTE OF SCOTTISH ARCHITECTS.

(Continued from page 437.)

A short discussion took place on several points raised in the foregoing report, and it was unanimously agreed—with regard to the proposed Royal Charter for the Institute—to remit to the Executive to continue negotiations and report in due course to the different Chapters. A report was also submitted from the Education Committee, and this dealt with considerations precedent to the drafting of a co-ordinated scheme of education for students of architecture in Scotland, it being mentioned that in the preparation of this scheme the points arrived at were:—(1) The utilisation to the fullest possible extent of the educational facilities existing within the territory of each Chapter, with the future extension and improvement of these where desirable; (2) the requirement of higher "school" teaching where possible, and the adoption of some definite relation between that and office training under the system of apprenticeship or otherwise; and (3) the making provision by means of which the Institute shall undertake the general direction of (and give assistance to) such a scheme, and require of its members, either as masters or pupils, compliance with its requirements.

A motion was next submitted by Mr. Henry F. Kerr to the effect that, "whereas the initial object of the Institute is to organise and to unite in Fellowship the architects of Scotland and to combine their efforts for the general advancement of architecture and for the promotion of the aesthetic, scientific and practical efficiency of the profession, it is desirable to consider whether those persons who have passed through the recognised professional training, and are engaged as experienced assistants in public and private offices, and are of not less than fifteen years' standing in the profession, be eligible for admission to the Fellowship of the Institute, subject always to their submission of proofs

(to the satisfaction of the Institute) of their training, skill, and experience." In moving this motion, Mr. Kerr said that he felt sure the members of the profession were already fully alive to the importance of the question involved, and he would not therefore debate the merits of the question, but merely the merits of the motion. He thought that his motion would appeal favourably to all members of the Institute, and one point which he particularly wished was that they wanted their profession to go forward as one united band—strong in hope and as strong as they could make it in numbers—and to get the best men on their side. He asked those present to think for themselves whether it was fair or just that men of the same experience as themselves, men who were doing the same work from day to day with the same uprightness, should yet be debarred from the Fellowship and only be entitled to the Associateship of the Institute. He frankly expressed the opinion that it was neither fair nor just, and he appealed to them to accept his motion, first, for the sake of strengthening the Institute, and, secondly, in common justice to their professional brothers. (Applause.) The motion was approved by the meeting, and it was remitted to a special committee to consider the matter.

A communication was read from the Royal Institute of British Architects stating that they had under consideration the proposal to apply for a Royal Charter for the Institute of Scottish Architects, and they suggested to their Scottish colleagues the desirability of caution and careful consideration before they proceeded with their project, and expressed the hope that there might be an early opportunity of discussing the matter with the representatives of the Scottish society.

Lastly, there took place the annual election of office-bearers, and Mr. William Kelly, of Aberdeen, was unanimously appointed as the new President; while as Vice-Presidents there were elected Messrs. Harbourn Maclellan (Aberdeen), James Findlay (Dundee), T. P. Marwick, A.R.I.B.A. (Edinburgh), John Keppie, F.R.I.B.A. (Glasgow), and Alexander Ross, I.E.D., F.R.I.B.A. (Inverness). Mr. Kelly, in accepting office, said he was afraid he would have difficulty in following in the footsteps of two such distinguished men as Sir Rowland Anderson and Sir John Burnet—men of great distinction far beyond Scotland and men of mark and individual character—but he promised to do his best to justify the confidence which was now being reposed in him. It was interesting to note that during its brief existence the Association had elected its first President from Edinburgh, its second President from Glasgow, and now its third President from Aberdeen; and surely that showed that it was endeavouring to justify its title of being "Scottish" in its character. (Applause.) Aberdeen belonged to one of the smaller Chapters of the Institute, and he felt in taking the position of President it was his duty to offer thanks on behalf of the smaller Chapters for this recognition. With reference to the absence that day of Sir Rowland Anderson and Sir John Burnet, Mr. Kelly also observed that fortunately they still had the former taking a very energetic part in the business of the Council; while they hoped, he was sure, that the latter would soon be restored to his wonted health and would continue to inspire them with his great personality. In conclusion, Mr. Kelly said that that afternoon they already had very interesting sentiments expressed both by Mr. Maclellan and Mr. Kerr regarding the unity of the profession, and he also wished to say that the one thing they must achieve was the showing of a united front to the outside world. (Applause.) They as architects had been pushed too long into a corner, and he did not think that they received the recognition which was their due. He believed, therefore, that there was great hope now that they had commenced to collect their scattered forces, and he urged that those who had held aloof hitherto should come within the Institute fold and enable them as a profession to do a great deal more. (Applause.) They wanted to carry out their ideals in the spirit of the times in which they lived, and they wanted to impress on the whole of the country the fact that architecture was a great and a

useful Art; and that it was the servant of the working man just as much as it had been the servant to those of wealth and position. (Applause.)

Correspondence.

"POILITE" AND THE GOVERNMENT DEMAND FOR IT.

To the Editor of THE BUILDING NEWS.

Sir,—With reference to the enclosed cutting from the BUILDING NEWS for June 5, stating that this company have supplied the Government "during the past year with no less than a hundred and seventy million square feet of 'Poilite,'" I beg to point out that this is not in accordance with the statement made by me as chairman at the general meeting of the company held on May 23.

I enclose a report of the proceedings, from which you will see that the statement was as follows:

"On the other hand, the Government demand for 'Poilite'—which has reached the enormous total of a hundred and seventy million square feet"—etc.

This demand is of course spread over the entire war period, but the figures are nevertheless very striking.

I do not know whether you will consider it worth while to make a correction; at any rate I thought it well to draw your attention to the mistake, in the event of your receiving any communication on the subject.

I am, yours faithfully,

J. ALFRED FISHER.

Joint Managing Director,
Bell's United Asbestos Co., Ltd.
Southwark Street, London, S.E.1,
June 11, 1918.

[We apologise for the *lapsus calami*. The figures are a remarkable testimony to the value of the material, emphasising the experience of all we know who have used it.—Ed.]

Sir,—The Theory of the Tripod (vide my paper read before the Concrete Institute on January 24, 1918) is proved by certain facts. I hope that Lieutenant Martin will pick the matter up, and deal with my writings collectively in a formal paper, which I submit is the best way of disposing of the case.

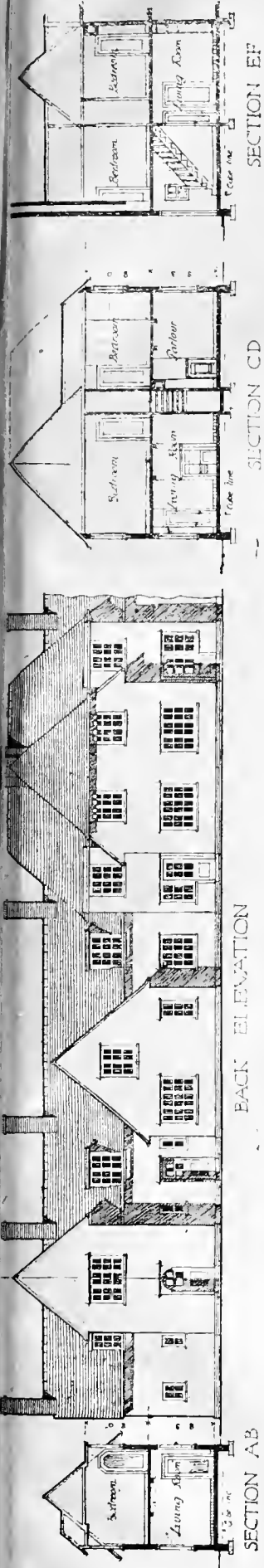
Regarding the British meter, I can only say that if, in this country, the rod, the chain, the furlong, the rood, and the acre, were found to be exact multiples and squares of multiples of the French metre, and the ton to be metric in relationship to the same metre, that decimal advocates would certainly claim that the French metre actually existed in our system. I demand this recognition and no more for the 5-link meter. Lieutenant Martin's admission that, for all practical purposes, the metre and the meter are indistinguishable, I think, concedes the position. What need is there, in this country, of a trade 59.37 inch metre, if the native British 39.6 inch meter is practically indistinguishable from it?—Yours, etc.,

E. A. W. PHILLIPS,
M.Inst. C.E.

Rawdon House, Hove.

Captain Charles Connor, R.E. (wounded), is the second son of Mr. James Connor, 318, Bath Street, Glasgow. For several years he was in the employment of Glasgow Corporation, and was engaged on the Western Main Drainage scheme. More recently he was in the employment of an engineering firm in London.

At a General Assembly of Academicians and Associates held last week Mr. Malcolm Osborne, engraver, was elected an Associate of the Royal Academy. Mr. Malcolm Osborne is principally known by his original work in engraving, but he has also reproduced paintings by modern artists and old masters. He was instructor at the engraving class at the L.C.C. Central School of Arts and Crafts until the war broke out, when he joined the Artists Rifles as a private. He has seen service in the trenches in France and Flanders, and is at present captain in command of a trench mortar section in Palestine.



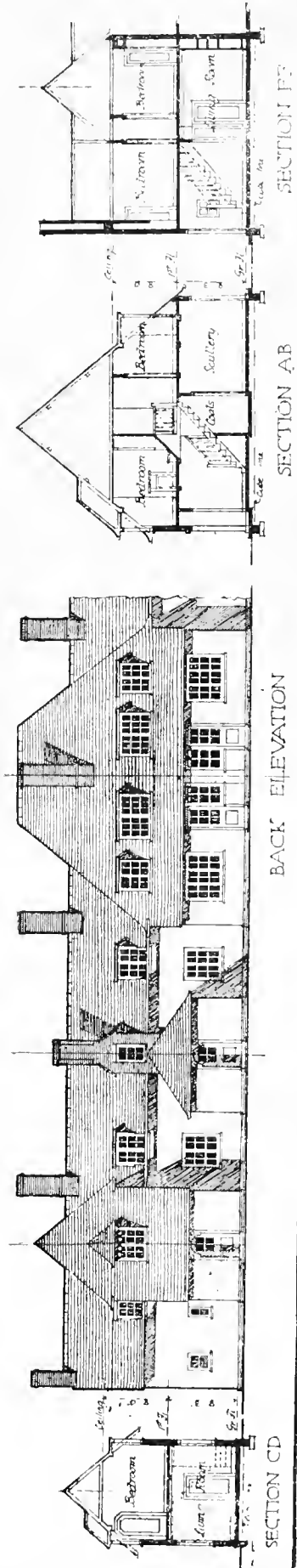
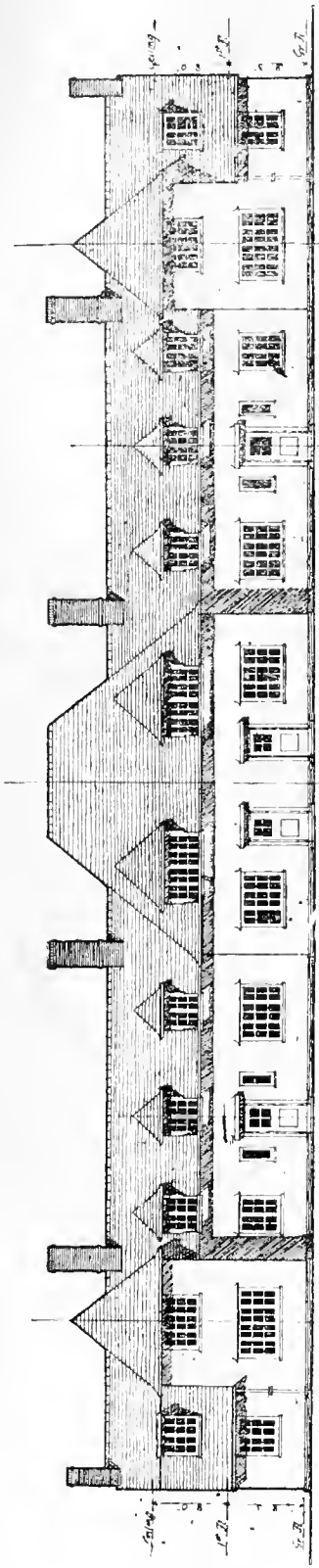
HOUSING OF THE WORKING CLASSES IN ENGLAND & WALES

CLASS C

MANCHESTR & LIVERPOOL AREA

SCALE 1" = 10' 0"

ELEVATIONS FOR RURAL AREAS



HOUSING OF THE WORKING CLASSES, ENGLAND AND WALES : CLASSES A, B, C, FOR RURAL AREAS.
 MANCHESTER AND LIVERPOOL DISTRICTS.
 Messrs. F. G. BRIGGS and ARNOLD THORNEY, F.F.R.I.B.A., Architects.

Our Office Table.

The Board of Agriculture gives some information in the May issue of the *Journal* on the subject of dry rot, which may prove of interest to architects, builders and others concerned. Put briefly, the following conditions should be either avoided or overcome in any building:—(1) Damp soil causing damp foundations, etc.; (2) vegetable matter, roots, cuttings of trees, shavings and waste pieces of timber buried in sub-soil or left under floor; (3) "Making-up" under ground floors with ordinary excavated material, which may contain germs of disease, instead of using hard impervious dry core; (4) improper stacking of timber; (5) use of timber stacks and interior of new buildings by insanitary workmen as "conveniences"; (6) bad and moist atmosphere under floors and in cellars; (7) use of unseasoned, immature or infected timber; (8) direct communication between timber and walls recently built which necessarily contain moisture. Other causes are stated and preventive measures are given.

Brigadier-General Croft (Christchurch, N.P.) asked the Home Secretary last Thursday whether there was a gentleman of German origin holding a responsible post in the Road Board, and whether he would see the advisability of replacing him by a British subject of British birth and of undoubted British origin. Mr. Baldwin, Joint Financial Secretary to the Treasury, who replied, said:—I presume the hon. and gallant member is referring to Mr. E. B. Wendt, a clerk in the service of the Road Board. Mr. Wendt was born of a German father and an English mother and became a naturalised British subject when he entered the service of the Road Board at its inception in 1910. The Chairman of the Road Board vouches for Mr. Wendt's integrity and loyalty, and assures me that he is a most efficient and experienced officer whose services could not be dispensed with without serious detriment to the work of the Board.

A new form of factory building has recently been coming into use in the United

States in which the columns are set back from the walls. The purpose of this is to give a continuous stretch of glass for the walls of the building which will admit considerably more light than the normal construction in which the column forms part of the wall. The floors of the building are supported either on brackets or else they have a cantilever projection beyond the columns. A good example of this construction is found in a seven-story and basement structure built in Chicago last year. The floors project six inches beyond the outer line of the columns, giving a clearance of three inches between the column and the glass. For architectural purposes, the columns at the corners and those next to the corners are built flush with the walls. As a result of this construction not only is there a considerable increase in the amount of light introduced within the building, but the ventilating surface is increased over 20 per cent.

The Women's Housing Sub-Committee, set up by the Minister of Reconstruction, has been entrusted with the task of inspecting specimen houses built for the working class, and advising on housing plans "with special reference to the convenience of the housewife." At every stage of their inquiries, they state, they have been confronted with evidence that the housewife's needs require closer consideration than they have so far received. An appeal is therefore made to all women's organisations and to those individuals who have made a special study of the question, first, to use the full extent of their resources in stimulating, among working women, investigation and discussion of housing problems from the housewife's point of view, and, secondly, to furnish the sub-committee with reports on any investigations and conferences for which they are responsible. Points of especial importance which are suggested for discussion are the position of the bath; arrangements for cooking, heating and hot water supply; number, size, and ventilation of bedrooms. Any reports and communications should be addressed to the Secretary of the Women's Housing Sub-Committee, Ministry of Reconstruction, 2, Queen Anne's Gate Buildings, London, S.W. 1

OHIPS.

The Higham Ferrers T.C. has decided to obtain tenders for the renovation of the town hall.

One of the victims of the Morecambe Bay boating disaster last Sunday week was Mr. James Thompson, builder and contractor, of Newland.

The presentation of the Royal Gold Medal for the Promotion of Architecture will be made to Mr. Ernest Newton, A.R.A., Past President R.I.B.A., at a general meeting to be held at the Institute, 9, Conduit Street, W., on Monday, June 24, at 5.30.

Designs have been prepared by Colonel A. W. Brewill, 44, Upper Parliament Street, Nottingham, of the proposed homes for the mothers and widows of the men of Lenton, Notts, who have fallen in the war. The site is at the junction of Sherwin Road and Church and Gregory Streets.

The following members of the Society of Architects have been appointed by His Majesty the King as Officers of the Most Excellent Order of the British Empire for services in connection with the war:—Capt. Henry Leon Cabuche, Asst. Controller, Dept. of Engineering, Ministry of Munitions; and Charles Tamlin Ruthen, Esq., F.R.I.B.A., Dep. Controller of Accommodation and Chief Inspector, H.M. Office of Works.

The sum of £95,752 was announced last Wednesday night as the result of the 120th anniversary festival of the Royal Masonic Institution for Boys, held at the Connaught Rooms, W.C. This total was received from 4,382 stewards, the largest Board of Stewards at any festival of any of the three Masonic institutions. The attendance, as well as the amount collected and the number of stewards, was a "record" in the history of the institution.

The Channel Tunnel, said Sir Arthur Fell at a meeting of the London Society last Thursday, will be the earliest and greatest of all the works of peace which will be begun immediately the war is over, and when labour and materials have become available. It will be the first monument to the new era of peace, and to an enduring friendship with the immortal race which for four years has been fighting by our side for the liberty of the world. This link will unite the two nations in a permanent bond that will enable the two peoples to know each other better, and to appreciate one another more.

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THE BUILDING NEWS

AND ENGINEERING JOURNAL.

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OUR ILLUSTRATIONS.

New House and Hunting Stables, proposed to be erected near Cirencester, Gloucestershire. View and plan. Mr. Andrew N. Prentice, F.R.I.B.A., Architect.	
The Bankers' Clearing House, The Committee Room, Lombard Street, E.C. Mr. Arthur Blomfield, M.A., F.R.I.B.A., Architect.	

Strand, W.C.2

Proposed War Memorial Chapel, St. Mary's Church, Finchley. VJ-w and plan. Mr. H. S. East, A.R.I.B.A., Architect.	
Housing of the Working Classes, England and Wales. First prize design, Class D, Rural Districts, London and Home Counties Area. Plan, eleva- tion, and section. Mr. John A. W. Grant, Archi- tect, Edinburgh.	
Housing of the Working Classes, England and Wales. Second prize design, Class D, Rural Districts, Manchester and Liverpool Area. Plan, eleva- tion, and section. Mr. Herbert L. North, F.R.I.B.A., Architect, Llanfairfechan, N. Wales.	

Currente Calamo.

Builders who have not sold their houses and cannot do so during the financial disturbance of the war are finding it easier, and more profitable, to let them furnished than empty. There is now a vast floating population of soldiers and workers who cannot settle down in homes of their own while the war lasts. These are, therefore, taking furnished houses and flats everywhere. From a legal point of view a furnished house is quite a different thing from the same house when empty. The common law on the letting of a dwelling-house does not imply any warranty or guarantee on the part of the landlord that it is fit to live in, and the tenant who goes into it without care has to take his chance all round. But if the house is let furnished a very different rule applies, and the law holds that the landlord does warrant it to be reasonably fit for occupation. There has been much litigation over this matter, which mainly depends, in the end, upon the facts proved. The recent case of "Vincent-Baxendale v. Kimber" is, however, of some instructive interest upon the legal issues. The house was a large one, at Hove: plaintiff let it furnished at a rent of £10 10s. a week under an agreement made October 19, 1917. She now sued for £252 as rent from that date to the action. The defence was that the place was not reasonably fit for occupation, and that the defendant did not obtain the agreed accommodation. In fact, the defendant gave up possession on November 23, 1917, after a month's residence, and repudiated the agreement. He thus denied all liability, but also counter-claimed for damages in case this point failed. At the trial, before Mr. Justice Sankey, the usual contradictory evidence was given as to the state of this old house, its dirty condition, and in regard to fixtures, fittings, etc., and on the part of the defendant as to an army of slugs which were said to invade the kitchen and larder. In the end the judge held that fitness for occupation was a question of degree. If the unfitness were real and substantial a tenant might repudiate the agreement. But here the tenant could not do so, as he thought the evidence was exaggerated. So he awarded defendant £60 as damages for the defects proved, gave plaintiff judgment for her full claim, and as the house had been relet for part

of the period he ordered that the defendant should have £120 out of the money in the agents' hands. After all costs, etc., are paid, and the accounts taken, there will not be much balance left, we fear, to either party on this unlucky letting.

In his interesting address last Thursday as the newly installed President of the Institution of Municipal and County Engineers, Mr. Hayward dealt tersely with several matters which well deserve the consideration, not merely of his brother members, but of the public, whose best servants they are in many ways, but whose interests are jeopardised by the ignorance, prejudice, and constantly changing incidence of the representatives too often sent by indifferent or partisan electors to the municipal councils. It is too true, unfortunately, as Mr. Hayward declared, that the active and faithful municipal engineer too often finds himself up against members of his council whose private interests clash with the public good, and his position is made so unbearable that he has no choice but resignation. As we have often insisted, there is no remedy for this but security of tenure for the municipal engineer, of the sort the medical officer enjoys, subject of course to action by the Local Government Board in cases of real indifference to or neglect of duty. That claim cannot be much longer unrecognised. Then we hope the municipal engineer will shortly refuse to be saddled with work that does not come within his province. Dwelling on the manifold and varied duties which are often expected of him, Mr. Hayward pointed out, that a municipal engineer may be called upon to design and carry out a scheme of sewerage and sewage disposal, to design and erect a bridge, to instal a tramway system, or to build a retaining wall, any one of which would test his skill and ability to the utmost. He may have to prepare plans and specifications for and supervise the erection and equipment of a library, or a swimming bath, or even a town hall, which will give him an opportunity of exercising his architectural knowledge. The provisions of the Housing and Town Planning Act will impose upon him duties which call for the exercise of the functions of both the architect and surveyor. That is so, and in some cases already it has not been to the advantage of the public. The functions of the architect are distinct from the duties of the municipal engineer, and

it has seldom been the case that the "architectural knowledge" of the former has resulted in the erection of public buildings such as Mr. Hayward referred to, which have been satisfactory in plan and design. A really efficient municipal engineer knows that, and when protected by security of tenure will, we hope, steadfastly refuse to add to his own duties by accepting those which are not infrequently added to his already exacting work by penny-wise but pound-foolish councillors whose parsimony refuses to architects their due share of the work they only are qualified to perform.

Mr. Nelson Dawson, in the June *Journal of the Imperial Arts League*, protests against the filling up of that magazine with such a discussion on Art and Manufacture as was done in the May issue, and offers his own views with regard to the betterment of the future of British Art. First, he thinks an organisation, i.e., a Trade Union, is wanted, such as the doctors and lawyers and carpenters and bricklayers and dressmakers have—in fact, everyone except artists, free and outside of all existing institutions such as the Royal Academy, Royal Institute, and other bodies. A central council should be elected by vote of professional artists, who, in turn, might elect a supreme senate, provided that all retire periodically and be non-eligible for re-election for a term. The status of the artist should be defined. A student should be passed through the state of apprentice and so on to the full and final degree. The name "artist" (or possibly another title) should be legally permitted only to this final state, as in the case of "Doctor" or "Solicitor" at present. National Art being a State necessity, a large central site should be provided on which a huge gallery or collection of galleries should be built and made available for particular groups who desire to be separate, as well as for ordinary exhibitions. By no means least, space should be provided for a sales depot of artists' work, and proper salespeople to attend to that branch. As is done now in other countries, artists should always be able to sell their work at a moderate figure to the State if they so desire. And all this should be done by English artists themselves, without the aid of Ministers of Art or manufacturers or other persons, saving always the Imperial Arts League, which could much

help such a matter forward. Doubtless, but how is this Registration of Artists, for such it seems, to be "legally permitted" except by the State?

Is it not interesting to observe, asks our contemporary *The Surveyor*, that in America the question of reviving the use of granite stone blocks for street paving is receiving considerable attention, and that by introducing standard blocks, properly dressed, all the objections to this class of pavement, due principally to large blocks with open joints, have disappeared? Is it not quite within the bounds of possibility that with increased traffic it will be necessary to revert to stone setts as a surface pavement in some of our streets? Our own reply would be in the affirmative, and that their substitution for some of the short-lived insubstantial wood roads would be welcomed, while asphalt would be increasingly used where for any reason stone was undesired. Even now, where wood paving is in such a forlorn condition that it is unpleasant and often dangerous to cross the roads after heavy rain, it is generally perfectly possible to cross safely and unspattered at the junction of cross roads where granite setts have been retained with economy and comparative safety and cleanliness.

Mr. Arthur Bolton, F.S.A., F.R.I.B.A., the curator of the Soane Museum, has written an interesting booklet, with twelve illustrations and two portraits, of Pitzhanger Manor, Ealing Green (now the Ealing Public Library), which from 1800 to 1811 was the country retreat of Sir John Soane, and which will be found helpful to visitors and students, who are often puzzled by the original character of Sir John Soane's architectural conceptions. Soane bought the existing house at Pitzhanger in July, 1799, with its twenty-eight acres, owing to its associations with his master George Dance, jun., and it is noteworthy that the house he erected was built in the years before Trafalgar, and 13, Lincoln's Inn Fields just before the final victory of Waterloo. His idea was that his elder son, John Soane, should occupy the house if he became an architect, but the son disappointed his father's expectations, who, mortified at the frustration of his wishes, sold the house in February, 1811. The son died in 1823, and his father seems to have transferred his hopes to his infant grandson. Mr. Bolton gives many other interesting personal details of Soane, with some brief but well-conceived appreciation of his work. The booklet can be had at the Museum for sevenpence.

St. Bartholomew's Church, Naylor Street, Liverpool, has a spire which lately began to lean in a certain direction and suddenly bore to the opposite side. When a churchwarden asked for an explanation of the phenomenon, the vicar replied that the steeple had sustained a shock owing to a surprise gift of £20 towards its repair!

Discussing the increasing number of war memorials in churches, the Archbishop of York, in his letter to the diocese, expresses the hope that wherever it is possible the plan will be adopted of arranging one dignified and beautiful, however simple, memorial, on which may be inscribed the names of all who, belonging to the parish, have given their lives for their country.

DETAIL AND SUPERVISION.

Few things, we fancy, must have impressed those of us who have had to do with a good deal of Government work lately more than that the shameful waste which has cost the country needlessly so many millions has been in no small degree the fruit of the disregard to the absolute necessity of the strictest attention to detail, due in the majority of cases to the employment of utterly unfit labour and the absence of competent supervision. Our own experience, even in private work, of late years has been that the bulk thereof is more and more passing into the hands of inexperienced and unskilled workmen, who care little about economy in the arrangement and use of material, and to whom, with the best will in the world, it seems impossible to explain how work should be done. We were astonished, for instance, not many hours since, at the denseness or obstinacy of some who simply ignored our endeavours to show how time and labour might be saved, and, at the same time, good work ensured, by so arranging and placing the forms on one section of a concrete structure as not to interfere with the work or its progress on another; and this, too, in connection with work by a firm which was alive to the needs of the times, and had had small models made of the form-work beforehand, as all should do, the careful study of which should determine what part of the structure should be completed wholly or in part before the starting of another. The foreman, indeed, had appreciated the new departure, and candidly owned that it was far easier to make out what was wanted than by relying on plans, more or less difficult to follow, and showing graphically but one plane at a time; but his efforts to shape the work accordingly met, he protested, with little willing compliance on the part of the men.

Of course, in the do-it-anyhow style, and never mind cost or waste, of Government work at the present time, the absence of proper architectural supervision has been fatal to all expectations of good results. Naturally that has been accompanied by seemingly supreme indifference on the part of the contractor to true economy of working equipment. Everywhere ignorance or indifference seems to prevail to the fact that the stoppage even of a steam shovel or concrete mixer for only ten minutes means not merely "ten precious minutes" of time lost by the machine in question itself, but that this loss is multiplied tenfold, and sometimes much more, throughout all the different operations to which it is auxiliary to an extent which is fatal to the confining of cost within estimates, unless, indeed, scamping is resorted to in order to counterbalance the loss.

Another element of ultimate loss due to cost out of proportion with the original estimate, due to short-sighted parsimony, is the breaking or giving out of equipment. Pulleys which have been cracked for weeks, ropes worn in parts into rags, tool-handles split into bits, all give out, generally at critical times, of course to the fatuous astonishment of those concerned, and a long hold-up follows, while—in the nearest pub or canteen—the high prices of all appliances are sympathetically discussed and the necessity of making everything last as long as possible! Of course, with such plant a catastrophe may occur at any moment, and the deaths or injuries of men result as well, but the contractor is insured, and the men are careless, and even where supervision of some sort is supposed to exist, inspection visits are few and far between, often by men who

conceive it no part of their duty to familiarise themselves with the condition of plant equipment, or to trace out how stoppage in one part of the job means delay throughout it, and have neither the knowledge where new plant or fresh material is to be had quickly on emergency, nor the authority to order it and get it at once to the spot.

The probable high cost of all building appliances and materials for some years to come can only be met in part by far more attention to detail and infinitely more intelligent, efficient, and all-embracing supervision than has prevailed of late. If that is assured, we believe it will be seconded by the disciplined men from the front who are coming back soon to take up their work and who will not tolerate lack of discipline on the part of those who control them. At present there is little hope of drilling the unskilled and half-skilled labour that is being drafted at any price into Government work, and which is tending to tolerance of slackness on the part of those who superintend it. Do let those of us who have little chance at present of helping to better things in this respect bear it more and more in mind that our first duty when work is plentiful again is more attention to details, and scrupulous exercise of supervision, which alone can ensure the due return for his money the client expects who has to find the money himself, and cannot make the million pay for waste as it does, and probably will, more and more, the more and more the State secures control of building as it will try its best to do.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

PRESENTATION OF ROYAL GOLD MEDAL.

On Monday evening, amid the congratulations of his fellow members and visitors, the Royal Gold Medal was presented to Mr. Ernest Newton, A.R.A., P.P.R., I.B.A., by Mr. H. T. Hare, the President.

Briefly, but with appreciative expression of the esteem in which the recipient is universally held, Mr. Hare congratulated his predecessor in office on the recognition by the Sovereign of the good work Mr. Newton had achieved in the promotion of architecture and the kindred arts. He added that during the past two years Mr. Newton had also rendered good service to the Government in the licensing of building and other matters under the Defence of the Realm Act, and that the whole profession owed much to him for the practical and sympathetic manner in which these national duties had been carried out.

Mr. Newton, acknowledging the reception of the medal, said it was not easy to lay down the lines on which future generations of architects were to be educated. The advantages of definite and systematic training in a school were obvious, but he hoped that the equally important advantages of guidance and inspiration by a great master would be kept in view.

THE LONGEST POSSIBLE BRIDGE SPANS.

By CHARLES EVAN FOWLER, M.A.M. Soc.C.E.

The first iron bridge of any importance to be constructed was in 1776, a cast-iron arch of only 100 feet span at Coalbrookdale, England, and it is still in existence after 142 years of service. The longest timber span on record was the Linnatbrücke of 390 feet span, built by Grubenmann. The many timber bridges built in America had some comparatively long spans, one built over the Schuylkill by Louis Wernwag was an arch of 340 feet opening; and Thomas Pope in 1810 conceived a Flying Pendant Lever Arch of timber for East River at New York of 1,800 feet span, and one for North River of 3,000 feet span, both of which were, however, undoubtedly impracticable.

The real progress in metal spans was made in England, where Telford constructed his eye-bar suspension span of 580 feet at Menai Straits in 1819, and another of similar design at Conway Castle. The coterie of what we

would to-day call bridge engineers, which was headed by Robert Stephenson, son of the inventor of the modern locomotive, and which included the famous scientists, Fairbairn and Hodgkinson, designed and built the famous tubular double track iron bridge over Menai Straits in 1850, with two spans of 230 feet and two of 460 feet, and which may justly be termed the first long-span metal bridge. This structure was carefully calculated and designed on modern lines, all of the principal features of design being verified by elaborate experiments. There was also constructed a tubular railway bridge of 406 feet span along-side of the Telford suspension bridge at Conway Castle, and another much more extensive tubular bridge by Stephenson over the St. Lawrence River at Montreal, Canada, but having the longest span only 330 feet, although it contained twenty-three other spans of 242 to 247 feet each.

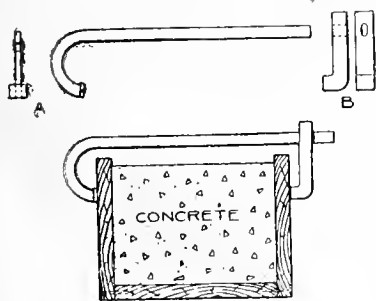
The Brooklyn bridge of 1595.5 span, begun in 1870 by John A. Roebling, and completed in 1884, was a wire cable suspension bridge, which is practically the longest span of this type ever built, although the Williamsburg bridge over East River is nominally five feet longer. The St. Louis arch bridge or Eads bridge over the Mississippi, built in 1868 to 1874, may still be regarded as one of the world's most wonderful bridges, with its channel arch of 520 feet and side spans of 502 feet.

There have been constructed during recent years a number of other notable bridges, comprising suspension spans, cantilever structures, and arches. The Elizabeth bridge at Buda-Pesth is an eyebar suspension of 951.5 feet span, and a very satisfactory structure in an architectural sense, although the Manhattan bridge of 1,470 feet span, a wire cable suspension bridge over East River near the old Brooklyn bridge, is supposed to be the last word in bridge architecture.

The greatest bridge in the world, all things considered, is the cantilever bridge across the Firth of Forth in Scotland, with its two spans of 1,710 feet each and three towers of 360 feet above the water. The design was made by Sir John Fowler and Sir Benjamin Baker in 1884.

CLAMP FOR CONCRETE FORMS.

An easily constructed clamp for holding the forms in making concrete structures is shown in the accompanying illustration. There are no screw threads to bother with and there is but one moving element. A contractor may have a number of these made by the local



blacksmith or machine shop and use them in construction work of any character.

A cold rolled bar, 1 inch by $\frac{3}{8}$ inch in diameter and about 3 feet long, should be heated and forged at one end into the shape shown on A. A short bar, 1 inch square and 10 inches long, should be fashioned similar to B. The hole in the latter should be just large enough to allow A to slip through with a close fit. It is the lever action which, pressing the diagonally opposite edges of the hole against the bar A, causes the bar B to wedge and hold.

In building a large concrete structure, a contracting company, says the *Canadian Contract Record*, used hundreds of these clamps for holding temporarily in position the wooden forms for beams, window sills, and stairways. A great saving in time as well as money was made, as they did away with the old method of nailing wooden cross-pieces to the forms. They are easily portable and may be moved from one job to another as soon as the concrete sets.

Our Illustrations.

NEW HOUSE AND HUNTING STABLES PROPOSED TO BE ERECTED NEAR CIRENCESTER, GLOUCESTERSHIRE.

This house, shown by the architect's drawing now at the Royal Academy, as here reproduced, has been designed for a hunting gentleman, who desired that the stables should be in close proximity to the house, in order to be under his supervision. A certain amount of interest has been imparted to the group of buildings by placing a small enclosed forecourt, surrounded as set out by the plan, and situated between the hunting stables and the house, with the premises arranged on three sides. The main entrance is placed on the south side of the forecourt, and to the north and east are placed archways, giving access respectively to the stable yard and to the kitchen offices. A nicely wooded meadow was acquired for the building site, and it was not proposed to lay out any extensive scheme of gardening; anything in that nature was to be confined to a small walled enclosure situated to the south of the building, and shown in the perspective view. The building materials were specified to be local stone, the roofs being intended to be covered with Cotswold stone slates. The design of the interior was desired to be of a simple character, but a decorative feature was to be made of the stone chimney-pieces, while the winter comforts were carefully studied and provided for by a proposed central heating system and a good electric light installation. Mr. Andrew N. Prentice, F.R.I.B.A., is the architect.

THE BANKERS' CLEARING HOUSE: THE COMMITTEE ROOM, LOMBARD STREET, E.C.

This photograph is now at the Royal Academy Exhibition. The room was made by throwing several apartments into one. The oak wainscot panelling was executed by Messrs. W. Cubitt and Co. A desire was expressed that the design of the mantels, by the same architect, at Christ's Hospital offices should be followed, and this was done in a general way, though here and there some variations occurred both in size and detail. Mr. Arthur Blomfield, M.A., F.R.I.B.A., the architect to the Bank of England, carried out the work, all of which was from his designs.

PROPOSED WAR MEMORIAL CHAPEL, ST. MARY'S, FINCHLEY.

The accompanying illustration is reproduced from the original water-colour sketch now at the Royal Academy, and the plan in the margin shows the site of this proposed chapel. The Church of St. Mary at Finchley is one of the few old buildings of its kind still remaining in the outskirts of London. In designing the proposed war memorial chapel the architect kept in view the desirability of masking some rather unfortunate renovations and additional poor groupings, and bringing this side of the church more into harmony with the unspoiled and comparatively unrestored parts of the building. The scheme provides for re-using all the disturbed old wall facings and some of the existing windows in the church. The interior treatment is also in harmony with the main fabric, with an oak beamed and trussed ceiling, in character with the roof of the nave, lately uncovered. The walls of the chapel are to have oak panelling about 7 ft. high, some of the panels being richly treated, so as to give emphasis to the others proposed to be inscribed with the names of the fallen men from Finchley who lost their lives on the battlefield. Mr. H. S. East, A.R.I.B.A., is the architect of the projected work. The vestry adjacent is immediately connected with the new sanctuary. The organ chamber is situated at the east end of the north aisle, on the other side of the chancel.

HOUSING OF THE WORKING CLASSES, ENGLAND AND WALES; MANCHESTER AND LIVERPOOL (RURAL) AREA. SECOND PRIZE DESIGN, CLASS D.

Mr. Herbert L. North, F.R.I.B.A., of Llanfairfechan, the architect of the prize design here published, is now abroad on active service in France. When we reviewed

the competition plans submitted for the Lancashire districts on February 20 last, we noted the well-arranged living rooms provided in his plans, with the scullery sinks as far away as possible. The plans show excellent and well-considered arrangements throughout, though the stairways are, perhaps, narrow, and the doorways. The elevations are homely and simple. The second prize plan in Class D (a variation of A, B, or C) is the particular scheme represented to-day, with one bedroom only on the ground floor, the other two in each cottage being on an upper story. Mr. North took first prize in Class A and second premium in Class C.

HOUSING FOR THE WORKING CLASSES, ENGLAND AND WALES: FIRST PRIZE DESIGN, LONDON AND HOME COUNTIES AREA, RURAL DISTRICTS, CLASS D.

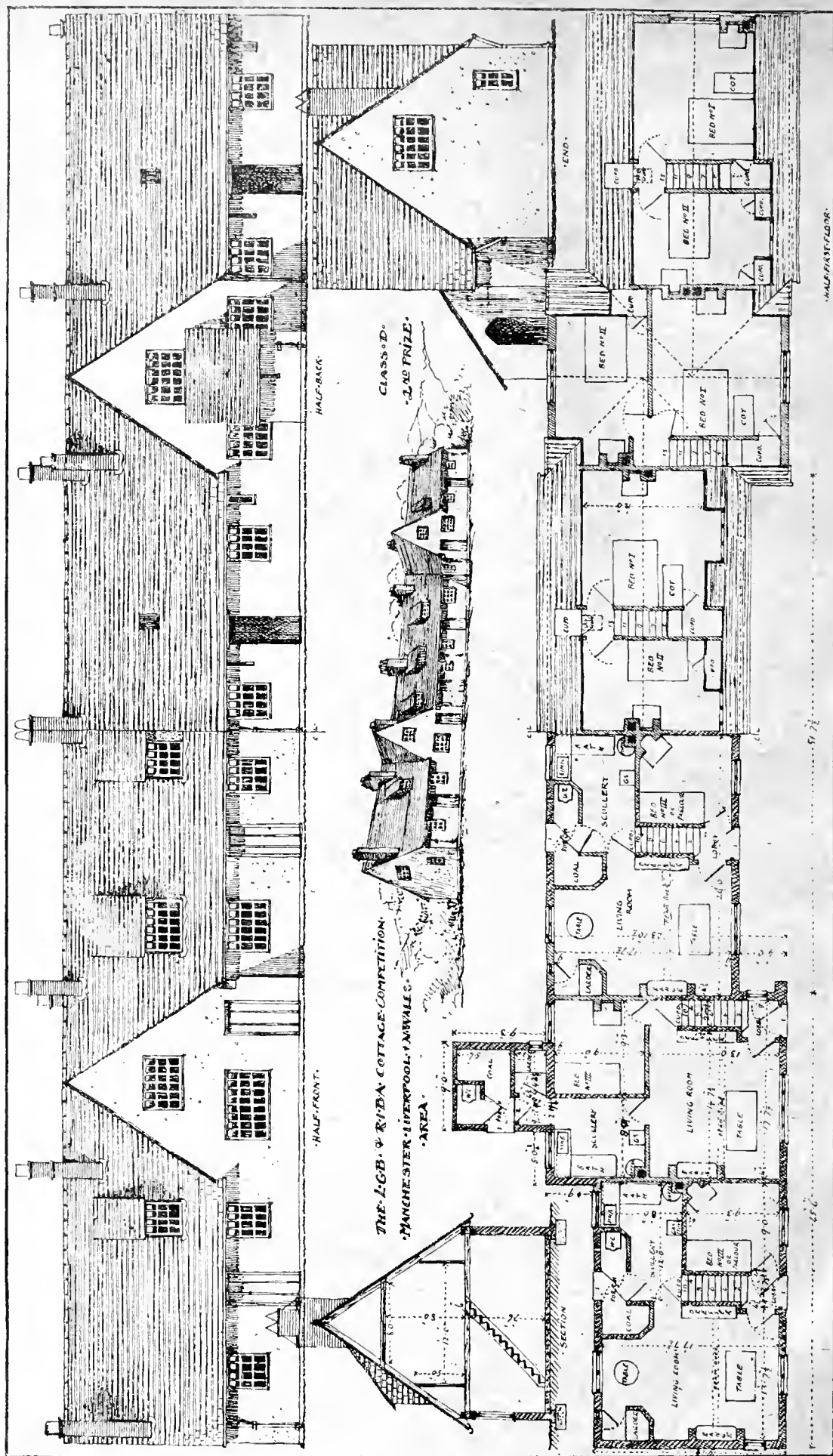
Mr. John A. W. Grant, of 15, Cargill Terrace, Edinburgh, the winner of the first prize in Class D, sends us the following notes on his scheme here illustrated. The cottage has been planned in the simplest manner possible, keeping in view the objection which tenants have to entering the rooms one off another. The living room, 15 ft. by 12 ft. 9 in., is arranged to allow the occupants to sit by the fire with comfort, out of the draught. The larder is purposely arranged to enter off living room in preference to the scullery, in which latter position the steam from washing and fumes from gas-cooker would penetrate. The scullery portion is arranged with a view to economy, only a small length of pipe being required for hot-water supply. The drainage is also compact. A gas-cooker is shown for use in the summer time, to avoid the need of a fire. Some tenants might prefer an ordinary interior grate in the living room, with a boiler for hot water attached, and do all the cooking by gas. The scullery is not large enough to be used for meals, but sufficiently ample for working purpose. The fireplaces are all arranged on internal walls, conserving the heat otherwise wasted. The coal store, entering outside off the porch at side, obviates dust settling about the house. The porch at the same time makes the scullery more comfortable and free from draught. The cupboards in bedroom are of the simplest description—formed with small fillets fixed to wall, on which shelves are fixed: a facing fixed to shelves acts as door-frame, to which doors are hung. The elevation is kept perfectly plain and simple, in keeping with a cottage of this kind. The walls are rough-casted; the base and reveals at windows and door openings are finished in smooth cement, with a margin $1\frac{1}{2}$ in. wide of smooth cement forming the architrave. The windows are shown double hung, in order to ventilate rooms conveniently in any kind of weather. This is sometimes difficult in an exposed situation with casements, unless of the more expensive kind. Mr. Grant has had considerable experience in the planning of small cottages, having carried out the Glasgow Garden Suburb scheme, and several smaller schemes in Glasgow. The bedrooms measure: No. 1, 14 ft. by 12 ft.; No. 2, 10 ft. 6 in. by 9 ft. 9 in.; and No. 3, 12 ft. by 6 ft. 9 in. The cubic contents work out at 10,350 cubic feet per house.

As a war memorial a new district hospital is to be erected at Watford. A site has been purchased with a frontage of 40 feet to Rickmansworth Road.

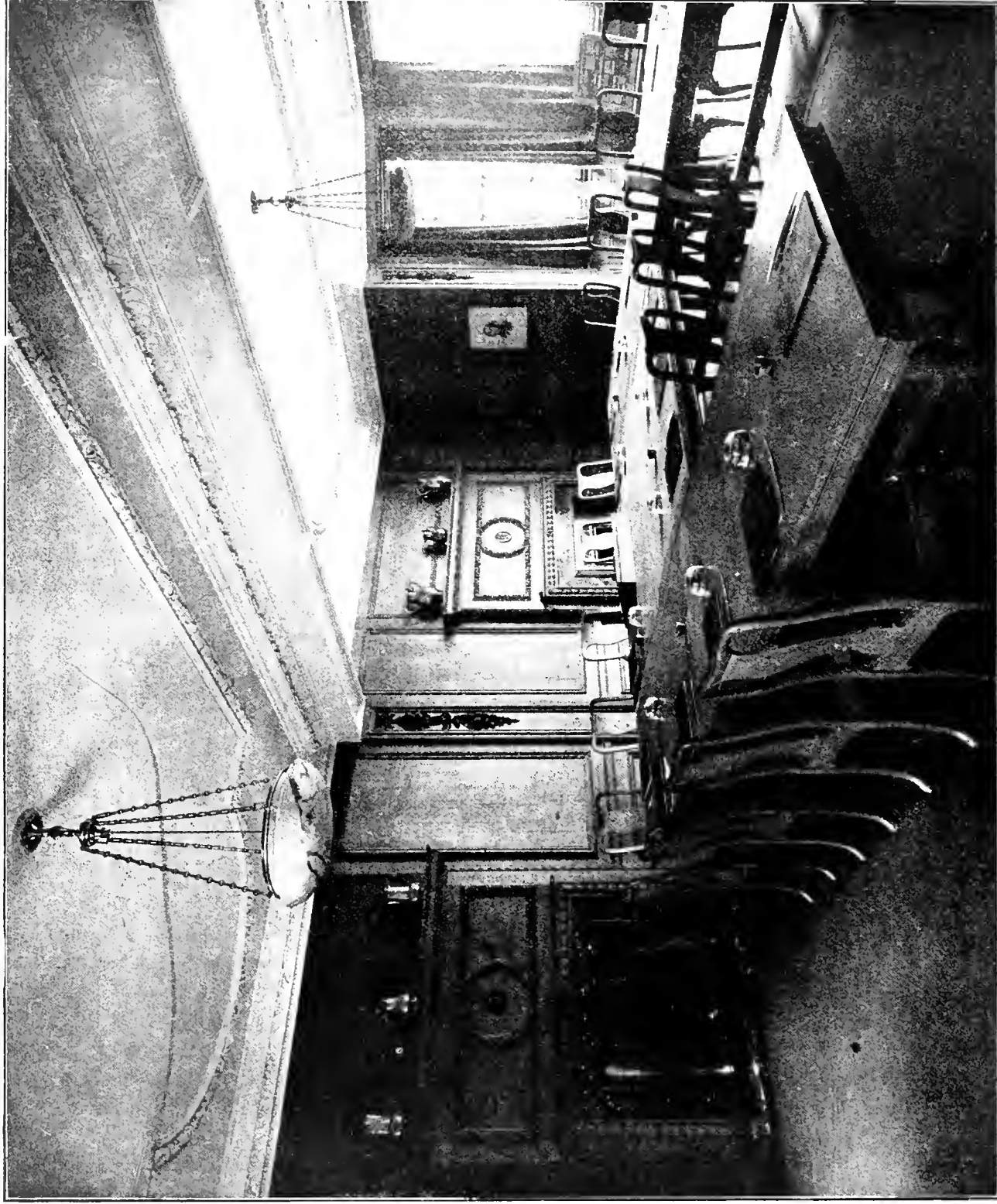
The Alwrick U.D.C. has requested Mr. Telbs, architect, to prepare a sketch plan showing the possibilities of a site to the south of Swanfield Park Road for a housing scheme for 100 houses.

Mr. Thomas Rennie, interim superintendent of Glasgow Art Galleries and Museums, whose death is announced, was seventy years of age, and had been twenty-eight years in the service of Glasgow Corporation.

The Wimbledon Town Council has made the following appointments:—Mr. Joseph Bowen, assistant engineer and surveyor, to be borough engineer and surveyor; Mr. W. H. Webb, chief architectural assistant and draughtsman, to be assistant engineer and surveyor; and Mr. C. H. Cooper, to be consulting engineer and surveyor to the Council, as from the date of his retirement.



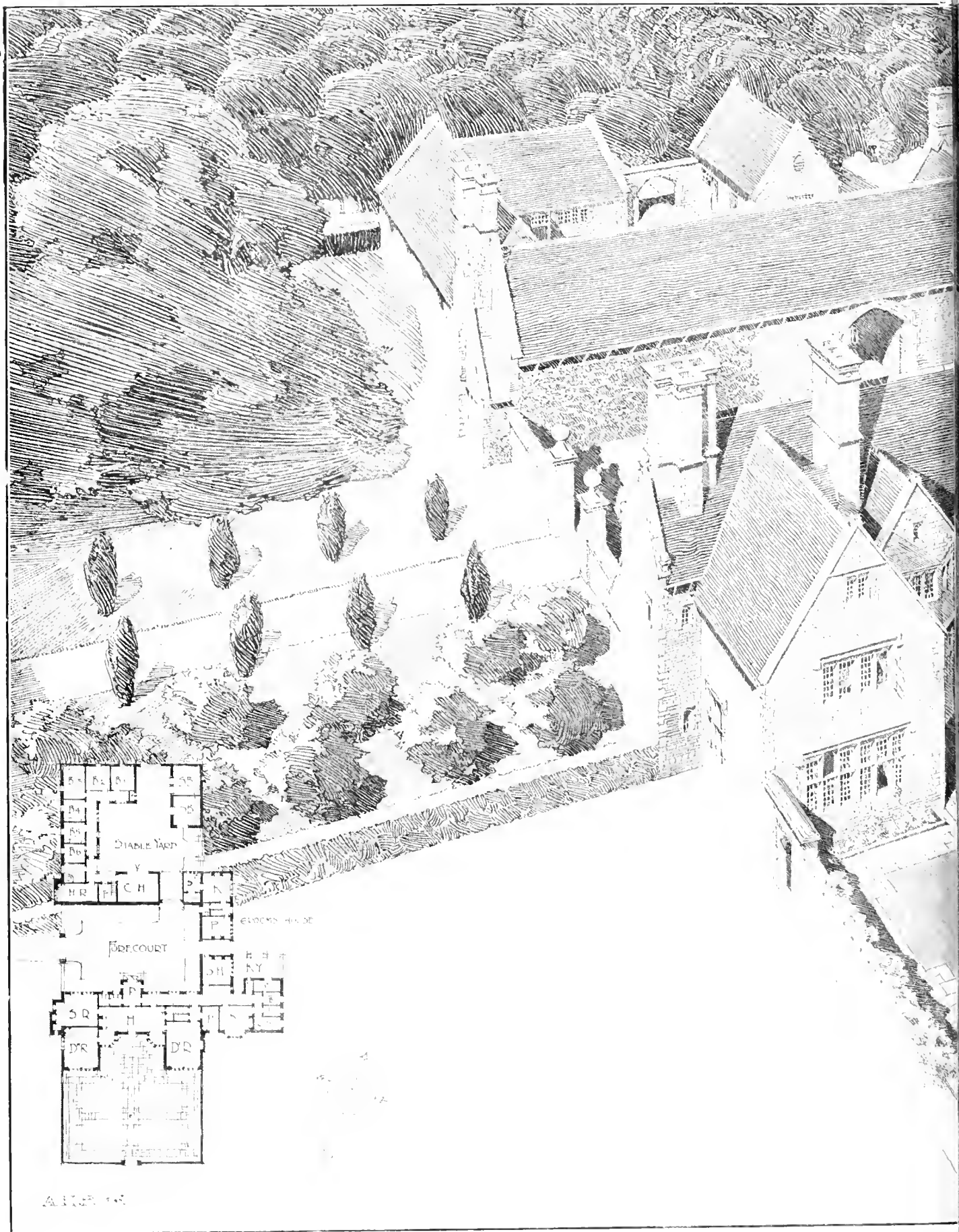
HOUSING OF THE WORKING CLASSES, ENGLAND AND WALES. MANCHESTER AND LIVERPOOL, RURAL AREA. CLASS D, SECOND PRIZE DESIGN.—Mr. HERBERT L. NORTH, F.R.I.B.A., Architect.



Bedford le Gros, Photo.]

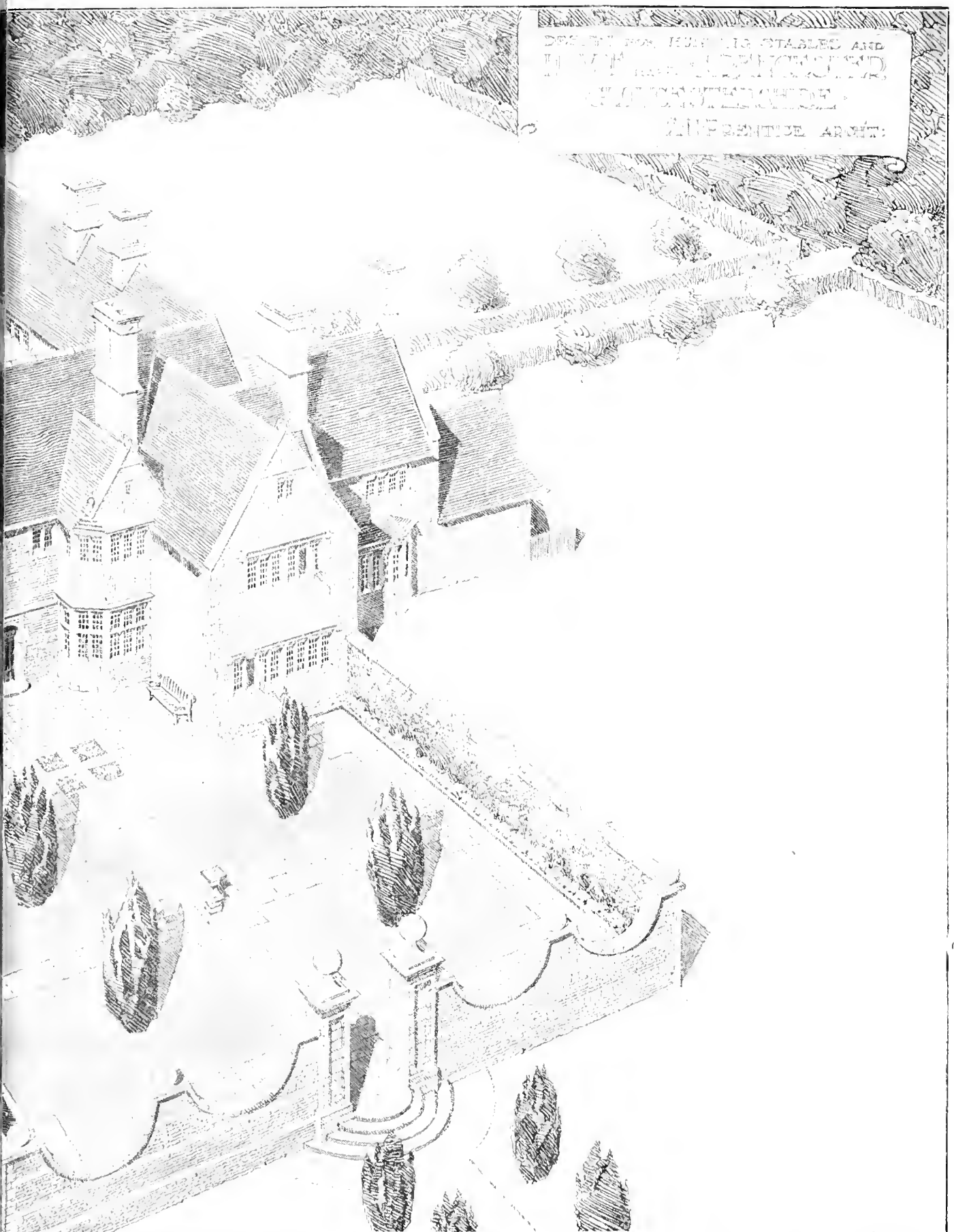
BANKERS' CLEARING HOUSE : THE COMMITTEE ROOM, LOMBARD STREET, E.C.
Mr. ARTHUR BLOMFIELD, M.A., F.R.I.B.A., Architect.





NEW HOUSE AND HUNTING STABLES, PROPOSED TO
Mr. ANDREW N. PRENT

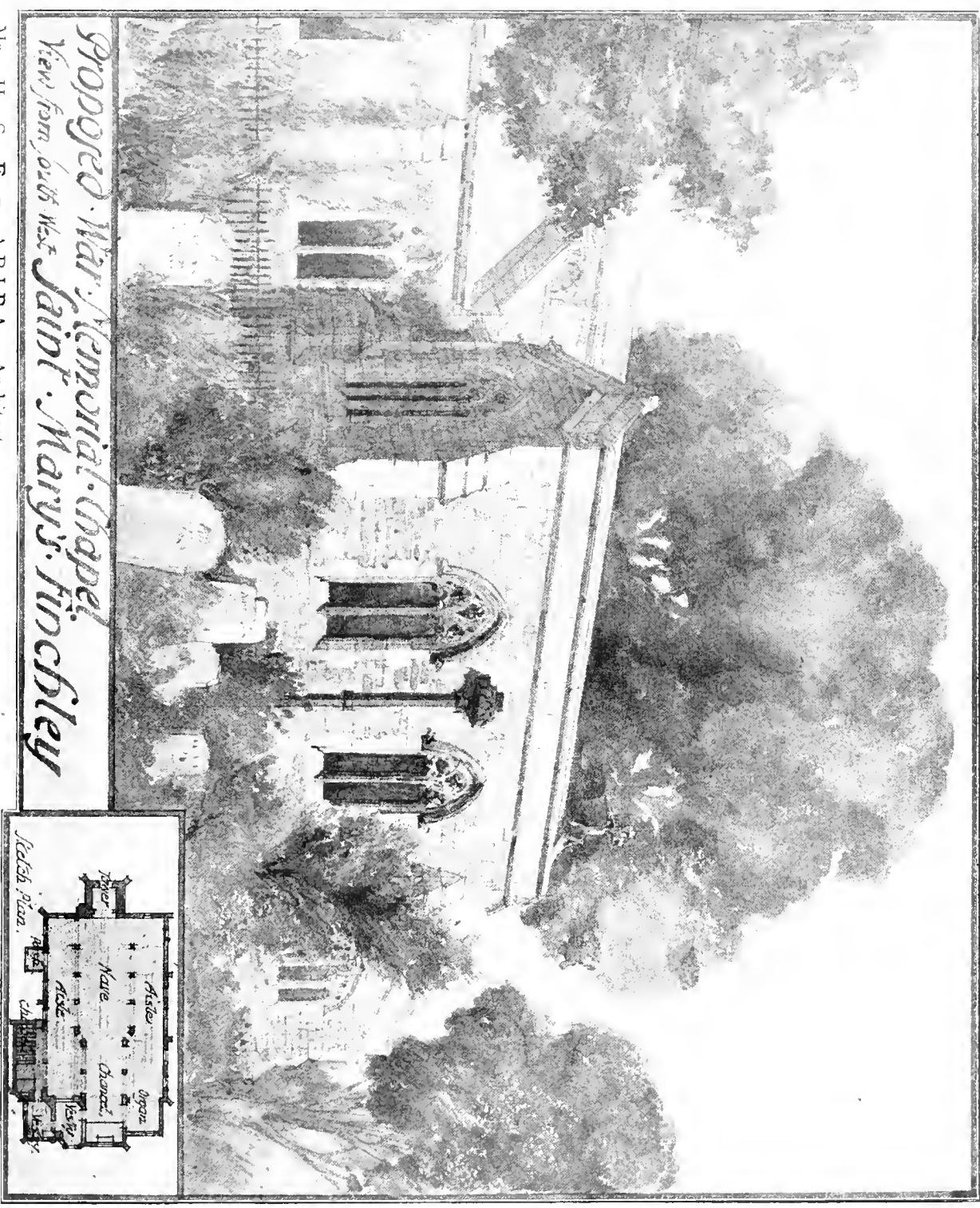
JUNE 26, 1918.



DESIGN FOR HUNTER'S STABLES AND
HUNTER'S RESIDENCE
GENERAL OFFICER'S QUARTERS
THE PRINCE OF WALES
THE PRINCE OF WALES

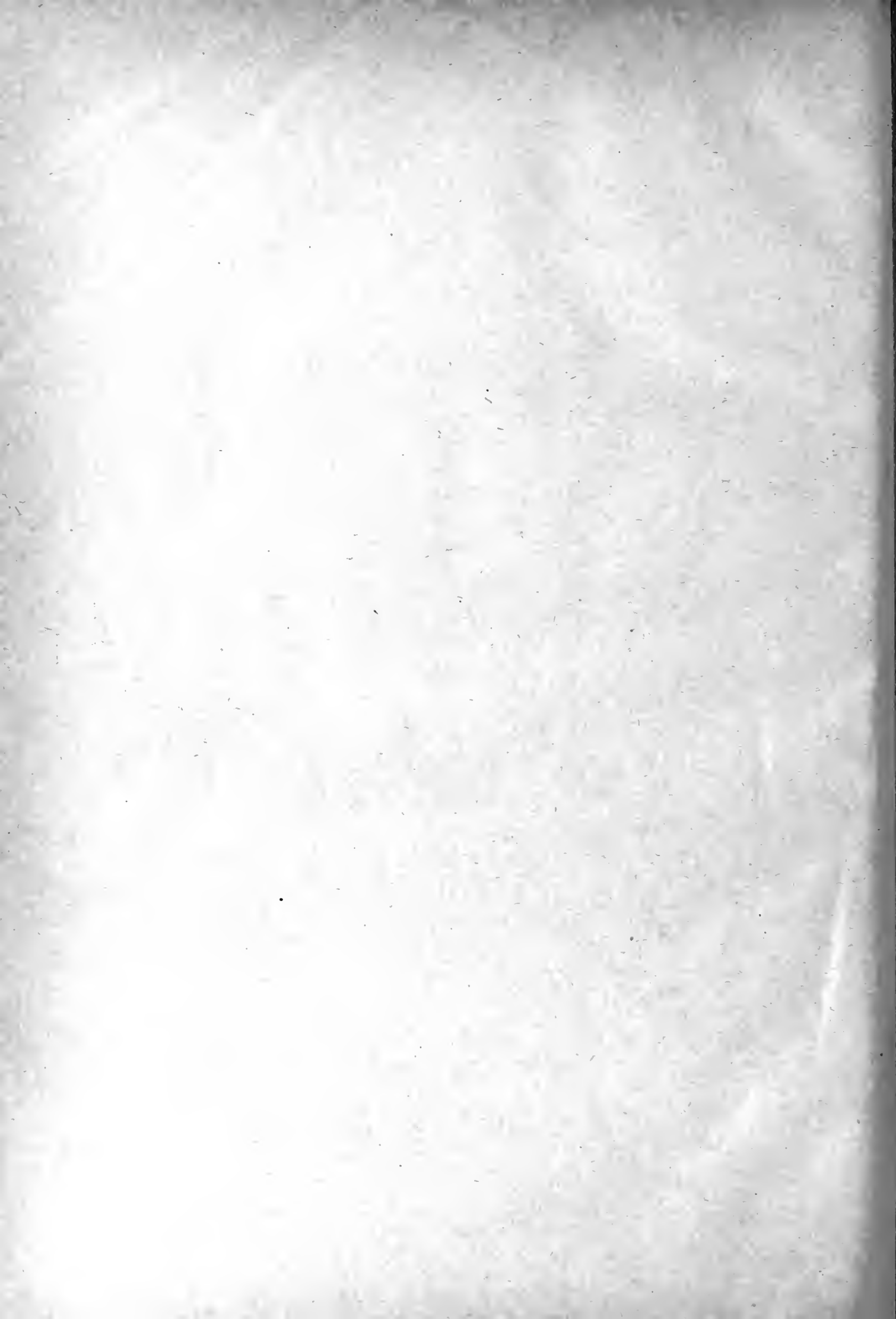
BE ERECTED NEAR CIRENCESTER GLOUCESTERSHIRE.
F.R.I.B.A., Architect.



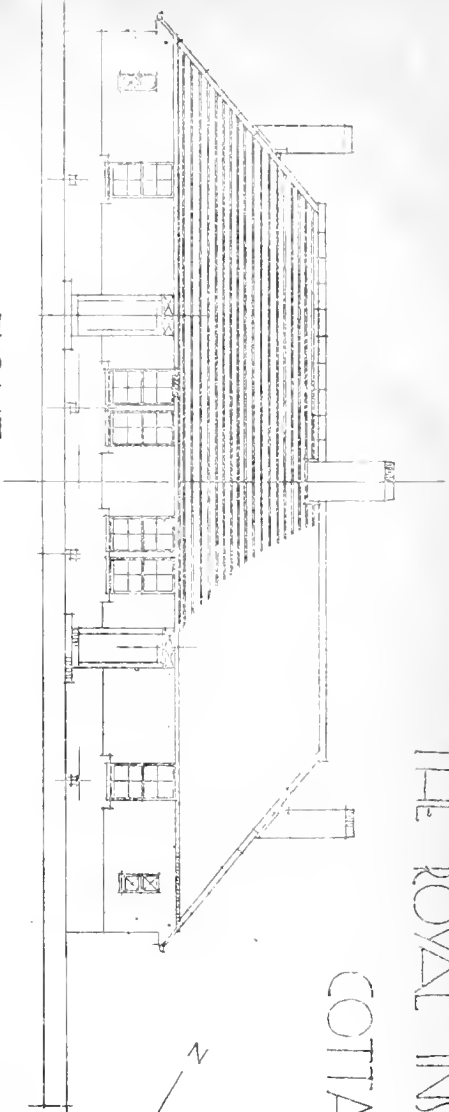


*Proposed War Memorial Chapel
View from South West
Saint Mary's Finchley*

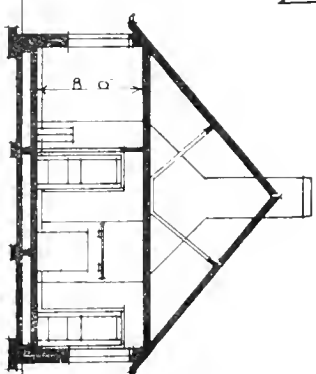
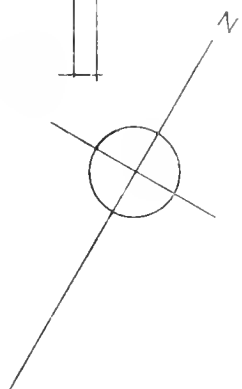
Mr. H. S. East, A.R.I.B.A., Architect.



THE ROYAL INSTITUTE OF BRITISH ARCHITECTS COTTAGE COMPETITION



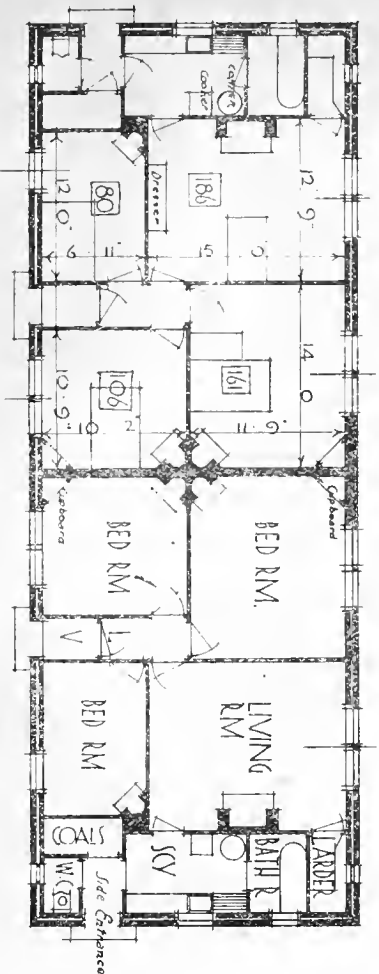
FRONT
ELEVATION



CROSS
SECTION

CLASS D

MATERIALS
WALLS 11" CAVITY
BRICK, ROUGHCAST
ROOF SLATED.
SLAB PARTITIONS
FINISHED 5" THICK,
WINDOWS DOUBLE,
HUNG FOR VENTILATION,
STANDARDISED FOR
ECONOMY.
PLYWOOD DOOR
PANELS.
SMOOTH CEMENT BASE.



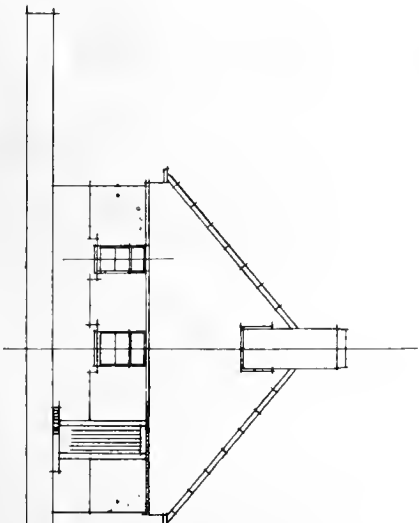
PLAN

11,592 CUBIC FEET PER HOUSE

HOT WATER SUPPLY
LOW PRESSURE SYSTEM WORKING
SUCCESSFULLY IN LARGE NUMBER
OF COTTAGES RECENTLY ERECTED
APPROX COST £5 PER HOUSE



END
ELEVATION



CONCRETE SEWER PIPE LAID ON THE BOTTOM OF LAKE ERIE.

At Cleveland a large outfall sewer is about to be laid on the bottom of Lake Erie for a distance of 3,400 ft. The use of cast-iron pipe would have been attended by considerable increased expense at this time, and would have entailed a delay of more than a year. The concrete pipes are cast on the site with ends shaped in the casting so that a tight joint is secured, and at the same time there is sufficient flexibility to permit of its conforming to the irregularities of the surface of the lake bottom. These precast sections are floated out on barges, sunk, and set in place by divers in trenches which have been previously prepared but are entirely devoid of piling or anything like foundation.

The first work of this character has been recently completed at Lakewood, a suburb of Cleveland, where the pipe made use of was much smaller, but the success of the scheme was fully demonstrated. Here, too, there was a departure in the shape of the metal bell and spigot ends which were made use of in the pipe ends, but in the interest of economy this use of metal has been dispensed with in the case of the Cleveland sewer. Here the joints were made in the concrete cast to the proper shapes in accurately machined moulds.

The Cleveland outlet sewer is being built at the foot of East 140th Street. The pipe made use of here is 84 ins. in diameter and 20 ft. in length. These are cast in one piece and in one operation, at the water's edge near the site of its final interment. They were cast on end; the machined cast for shaping the end is laid, and the reinforcement tied to this and then a cylindrical mould lowered about the reinforcement. Into this the cement is poured. It is not found necessary to make any provision against the greater pressure at the bottom of the mould.

For making the joint between the two ends, a 1½-in. iron pipe is set in the shell of the concrete pipe to a depth of about 6 ins. and at a point about 8 ins. from the end of the pipe. In these pipe threads are tapped and the eye-bolts screwed in, and through the eyes of these latter bolts 1½-in. tie-bolts are passed. In order to take up the reaction of these tie-bolts, however, the vertical iron pipes carrying the eye-bolts are held together through the 20-ft. length of the pipe by one 3-in. rod hooked around the pipe insert and imbedded in the shell of the concrete pipe. A heavy asphalt paint is placed on the hemispherical faces of the joints, so that when they are brought to bearing there will be an amount of the composition forced out, and this will make a tight joint.

The length of this pipe is 3,400 ft., and all of this with the exception of 1,000 ft. is 84 in. in diameter. The end of the line tapers down to a minimum of 48 in., with openings at intervals for the escape of the sewage. This, of course, secures the necessary distribution over a considerable area of the lake bottom.

John Henry Brown, a carpenter, was fined £10, or in default sixty-one days' imprisonment, at Bristol on June 17 for maiming himself in order to escape military service. It was stated that he placed three fingers under a circular saw.

The Birmingham City Council have agreed to purchase the Garrison Farm and Bordesley Green estates, containing an area of about 34 acres, for £42,250, as a site for a central depot and wharf, with railway accommodation, a central site for a tip, and an open space.

Sheriff Moffatt has given his decision at Linlithgow in an action at the instance of William Constable, architect and surveyor, Edinburgh, against the School Board of the Parish of Uphall for £26 12s., being fees for measurements and schedules prepared in connection with a proposed addition to the public school at Uphall in 1915. The Education Department refused to allow the building to proceed in consequence of the war, and defenders declined payment of fees on the ground that pursuer had arranged to accept payment out of the first instalment which the contractors received. The sheriff has granted decree for the sum sued for with expenses.

Building Intelligence.

LEANDRINO.—Thanks mainly to a legacy by the late rector towards the renovating and restoring of the ancient parish church, the tower has been partially rebuilt, the roof repaired, and general masonry work on the exterior carried out. All the woodwork of the interior has been stained and varnished a dark oak colour, the choir removed from the gallery to the chancel, while an additional beam fixed on the ceiling forms a marked division between the chancel and the main body of the church. The church was reopened on the 14th inst.

"WASHINGTON" INN.—The American Y.M.C.A. Hostel for Officers of the American Army and Navy, St. James' Square, London, S.W., was opened on June 24, 1918, at three o'clock, by H.R.H. the Duke of Connaught. Mr. S. Phillips Dales, M.S.A., of Lindum Chambers, Romford, and 11, Ivy Lane, E.C., was the architect for "Washington" Inn, and deserves credit for the ingenious way in which he planned the huts so as to live up to the Y.M.C.A.'s agreement with the inhabitants of the Square, that no trees should be cut down or harmed in any way. Mr. John McManus was the contractor. "Washington" Inn can accommodate about 110 officers with sleeping quarters. Although erected primarily for officers of the American Expeditionary Force, all Allied officers are welcome.

OBITUARY.

The death is announced, on June 18, at Worthing, of Mr. Edward Cookworthy Robins, F.S.A., F.R.I.B.A., in his eighty-eighth year. In his active years the deceased was well known as an authority on school and college building, and in our issue of July 22, 1887, we devoted considerable space to a review of his then just published quarto, the fruit of his tour of inspection as a member of the Executive Committee of the City Guilds, of the polytechnic schools of the Continent, which justly ranked at the time as the only comprehensive work on its subject of value to the architect engaged in buildings of the kind. Mr. Robins had also a considerable practice in connection with church and chapel architecture. We illustrated his design for Newman Hall's church in the Westminster Bridge Road in our issue of October 17, 1875, and the selected design by him and the late Mr. George Freeth Roper for a church at West Dulwich in that of February 6, 1874. In our issue of March 7, 1875, we also illustrated an alternative design made by Mr. George Freeth Roper for a London church, together with one of St. Andrew's Cathedral, Inverness, reproduced from one given in the *Builder* some three years before, as possibly likely to settle a somewhat painful controversy which some of our readers may remember, and which had occupied a good deal of our space in the earlier issues of that year.

We regret to record the death on June 17, at 8, Onslow Gardens, Muswell Hill, of Mr. Frederic R. Farrow, F.R.I.B.A., and his interment on Friday last in Kensal Green Cemetery. Mr. Farrow, who was born on January 18, 1856, was a man of many activities, and widely esteemed in all, and personally endeared to numerous friends through many years, among whom it was always a pleasure to count ourselves. As a practising architect he did much good work; he was the author of several useful books on building construction, and served with considerable zeal and discretion as hon. secretary to the Architectural Association. He had also been the editor of the *Architect* since 1908, having for some time previously been associated therewith. When his partner was called up for service Mr. Farrow was left to carry on the practice of the firm (Messrs. Ernest Runtz, Son, and Farrow), and the resulting calls on his strength were increased by his devotion to the public service as a member of the National Guard of the City of London. This work he only gave up by the orders of his medical advisers, and since last autumn his condition has been precarious. He leaves a widow and three daughters, whose sorrow will

be mitigated by the consciousness that their grief is shared by very many whose sympathy is sincere and whose regret is as deep if less ineffaceable than their own.

LEGAL INTELLIGENCE.

BUILDING WITHOUT A PERMIT.—John Walker, trading as Walker and Scott, and Herbert Lord, trading as Knight and Lord, were summoned at Liverpool recently for having carried on certain construction work without a permit from the Minister of Munitions at the Swan Picturedrome, Mill Lane, Old Swan, contrary to the Defence of the Realm Regulations. The Kirkdale Picture House Co., Ltd. (owners of the Swan Picturedrome) and Jos. Pearce (architect) were summoned for having aided and abetted the other defendants in the committing of the offence. Mr. Proctor and Mr. Loughrey, who represented the defendants, both expressed regret for the contravention of the regulations, which arose out of a misconception of the Order. The Kirkdale Picture House Co. were fined £50, and were ordered to pay 15 guineas costs. The other defendants were fined £20 each.

EUSTON ROAD BUILDING LINE.—This appeal in connection with the premises 378 and 384, Euston Road, with regard to which the building line as defined by the superintending architect of the London County Council was disputed. The case first came before the Tribunal of Appeal in December, 1909, was followed in January, 1910, by a decision of the Tribunal, the effect of which was that they divided the distance comprised in the architect's certificate into three sectors. In July, 1912, the Tribunal stated a case, and the question was whether, as far as regards the defining of the general building line, the order was right. The matter went to the House of Lords in 1915, who held that the Tribunal's decision was right. After that decision the London County Council required a case to be stated by the Tribunal. On the 14th inst. the case came before Mr. Justice Atkin and Mr. Justice Shearman. Mr. Justice Atkin, in giving judgment, said he did not think it was competent for the Tribunal to go on defining building lines on the right and the left. The Tribunal was not entitled to fix a building line between certain points in this particular strip of road from the Hampstead Road to Osnaberg Street. In his opinion the appeal should be allowed and the order of the Tribunal amended. As, however, his learned brother took a different view the order of the Tribunal would stand, and there would be no order as to costs. Mr. Justice Shearman thought it was not beyond the powers of the superintending architect to act as he did in this matter. In his view the Tribunal of Appeal was not a mere appellate Court without jurisdiction of its own. There was nothing to show that they arrived at a wrong decision, and he therefore thought that the appeal should be dismissed. The order of the Tribunal was confirmed without costs. Leave to appeal was granted.

Plans for alterations at the Jewish Hospital, Sherbourne Street, Cheetham, have been approved by the Manchester Corporation Buildings Committee.

The High Wycombe Corporation has had placed in certain well-frequented parts of the town in the open tin boxes containing pipe-lighting gas jets for the convenience of smokers.

For the benefit of the Serbian Distress Fund a collection of early water-colour drawings lent by Sir Harry Wilson, K.C.M.G., is on view at the Twenty-one Gallery, 21, York Buildings, Adelphi, W.C.2, daily, 10.30 to 6, till July 27, 1918. Admission, 1s. 3d., including tax.

The death of Mr. William Gott, of the firm of Messrs. Wm. Gott and Son, Hunslet Mills, Leeds, has taken place at his residence, Bridenell Road, Leeds. Mr. Gott had been connected with the Leeds building trade for the last forty years, and had been interested in the erection of many important buildings in the West Riding. He was sixty years of age, and leaves a widow, two sons, and one daughter.

A ward has been decorated at the Maudsley Neurological Clearing Hospital, R.A.M.C., Denmark Hill, S.E., in the Kemp-Prosser Colour Scheme for shell shock and neurasthenia. The Union of South Africa Public Works Department proposes to make a trial of the colour scheme in its mental hospital. In every case the material used is that made to Mr. Kemp-Prosser's specification and approval in his special colours in Berger's Matone, as illustrated by us in our issue of January 9 last.

Our Office Table.

The Dutch Government is said to have taken very drastic measures to prevent the disposal to an alien syndicate of certain very extensive lime and cement deposits and factories in Holland. The bargain, it is understood, was all but completed, the price offered being apparently too liberal for the several owners to resist. Though not avowedly German, the proposed purchasers were to be financed from Germany, and if the bargain had been completed almost the entire control of the industry in Holland would have fallen into enemy hands.

Mr. T. W. A. Hayward, M.Inst.C.E., M.I.Mech.E., F.S.I., the new President of the Institution of Municipal and County Engineers, is borough engineer and surveyor to the Metropolitan Borough of Battersea, having been elected to that position in January, 1904. Before going to Battersea Mr. Hayward was for one year borough engineer and surveyor of Stamford, and the previous six years borough engineer and surveyor and water engineer of Sudbury, Suffolk. The Battersea Borough Council have unanimously passed a resolution to the effect—"That the Council congratulate the borough engineer and surveyor, T. W. A. Hayward, Esq., M.Inst.C.E., M.I.Mech.E., F.S.I., in being elected President of the Institution of Municipal and County Engineers for the year 1918-19, and wish him a successful year of office, and that the Common Seal of the Council be affixed to a copy of this resolution."

The registration of architects seems to be desired in Shanghai, according to the municipal engineer, Mr. Chas. H. Godfrey, in his annual report for 1917. Of 201 plans submitted in the last quarter of the year, eighty-four were disapproved, which (says Mr. Godfrey) clearly shows the incompetency of the majority of the applicants, many of whom are little better than "contractors' Chinese clerks, who rely upon such information as they may obtain from the Public Works Department regarding the interpretation of the building rules to get their plans passed. . . . If registration of architects were compulsory, it would seem that in all but isolated cases plans submitted to the Council would be approved with but little alteration, thereby saving considerable time both in the office and outside on inspection work."

Considerable time and expense are often involved in the proper aligning of column forms, especially in the cases where odd geometrical shapes are used. A very good method is to build a small form out of 2 in. x 4 in. stock, of the proper profile, and place these small forms as a base for the column. The carpenter can readily line up the small boxes and, after the concrete has set, can use the base as a template for placing the longer and more cumbersome form. All that is necessary is to place the

column form over the template, plumb it up, and brace it. A further advantage in having the short section pre-cast is found in levelling the top of the forms. By leaving the forms a little short one can drive wedges underneath the form and have an adjustment of two or three inches.

A valuable report on Canadian Douglas fir and its mechanical and physical properties, prepared under the direction of Dr. J. S. Bates, the Superintendent of the Forest Products Laboratories of Canada, by Mr. R. W. Sterns, B.Sc., Chief of Division of Timber Tests, is issued by the Canadian Department of the Interior. The purpose has been the presentation of results of tests of small, clear specimens of the Douglas fir, both of the coast and mountain type. The report covers 84 pages, and it is impossible to condense it, but it appears that Douglas fir grown in Canada and that grown in the United States may be considered to be of practically identical properties. The report is published by the King's Printers at Ottawa.

After paying all capital charges and providing a sum of £4,750 for war service allowances, the estimated surplus on all completed dwellings by the London County Council is £8,206, or 3.50 per cent. of the net income receivable, as compared with an estimated surplus of £9,472, or 4.12 per cent., in 1917-18. The revised estimate for last year, however, is about £13,400, and the reduced estimate for 1918-19 is due to the increase in expenditure arising under practically all heads. The total estimated income and surplus may conveniently be analysed as follows according to the powers under which the several dwellings have been provided—

	Income. £	Sur- plus. £
(i.) Housing Act of 1890—Part I. . .	69,680	4,284
(ii.) Housing Act of 1890—Part II. . .	5,816	253
(iii.) Housing Act of 1890—Part III. . .	102,557	1,950
(iv.) Improvements, etc., Acts . . .	56,108	1,719
Total	234,171	8,206

The dwellings belonging to the Council, for the maintenance of which provision is made in the estimates for 1918-19, comprise 6,540 tenements in block dwellings, 3,449 cottages and cottage flats, 1,874 cubicles at lodging-houses, 117 shops, a doctor's house and 370 workshops, sheds, stables, etc., or a total of 12,350 lettings, with accommodation for 58,896 persons. The net income receivable is estimated at £234,171, or an increase of £4,365 as compared with the estimate for the preceding year.

At the last meeting of the council of the Institution of Municipal Engineers notice of motion was given by Mr. F. A. Pringle: "That it is desirable in the opinion of this institution, that municipal engineers should be represented by one strong body, and with this object in view the Institution of Municipal and County Engineers be asked to appoint three of the members of their council to meet three members of the council of this institution to discuss the matter, and to report later to their respective councils."

FOR Olivers'

Seasoned

Hardwoods,

APPLY TO—

WM. OLIVER & SONS, Ltd.,
120, Bunhill Row, London, E.C.

LIST OF TENDERS OPEN.

BUILDINGS.

June 28.—Erection of 20 piggeries at Stock's Hill, Menston, near Leeds.—For the Menston Pig Club.—Plan and specification and particulars from H. Riding, Architect and Surveyor, Council Offices, Menston, to whom sealed tenders are to be delivered.

June 29.—For additions, alterations, renovations, and repairs, etc., at various council schools, Trowbridge, during the summer vacation, 1918, in accordance with plans and specifications prepared by the county surveyor.—For the Wilts County Council Education Committee.—Plans and specifications and forms of tender will be obtainable after May 30 upon written application to Mr J. G. Powell, County Surveyor, Trowbridge. Sealed tenders, County Surveyor's Office.

July 4.—Repairs and decorative work at the Kensington Infirmary.—W. R. Stephens, Clerk, Board of Guardians, Marles Road, Kensington, W.

PAINTING.

July 3.—Painting and colouring certain Council schools.—For the Monmouthshire Education Committee.—C. Danney, County Hall, Newport.

TENDERS.

*.*Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender: it adds to the value of the information.

ADWICK-LE-STREET (YORKS).—For excavating and re-lining about 470 lineal yards of trench for 8 in. water-main, for the urban district council. G. Gledhill, surveyor:—

Howarth and Co., Doncaster* . . . £308 0 6
Knight, E. S., Doncaster . . . 159 6 6
Cox, C. E., 1, Adwick Lane, Beu-
ley, Doncaster (accepted) . . . 131 19 4

*Includes pipe jointing.

AYLESBURY.—For extension of offices, for the town council:—

Webster and Cannon (accepted) £188 0 0

BRISTOL.—For repair of heating installations at (1) Ashley Down school, and (2) Wells Road school, for the education committee. Accepted tenders:—

1. Bradiord, T. B. . . . £215 0 0
2. Skinner, Board, and Co. . . . 125 0 0

CHICHESTER.—For repairing cottages at 26 and 27, St. Paul's Road, for the corporation:—

Aldward (accepted) . . . £85 0 0

LONDON.—For cleaning and repairs at hospitals, for the Metropolitan Asylums Board:—

At Grove Military Hospital.

Edgar, H. J., Lancaster Gate, W. £119 0 0

At Brook War Hospital.

Kazak, L., 12, Steele's Road, Hampstead . . . 775 0 0

LUDDENHALL (YORKS).—For hmr wall on Daisy Bank Road, for the Luddenden Foot Urban District Council. G. Blackbrough, surveyor:—

Helliwell and Shaw, Sowerby Bridge, 18s. per cubic yard (accepted).

OXFORD.—For repairs at 8, Longwell Street, for the corporation:—

Simms, J., and Son, Oxford . . . £308 0 0

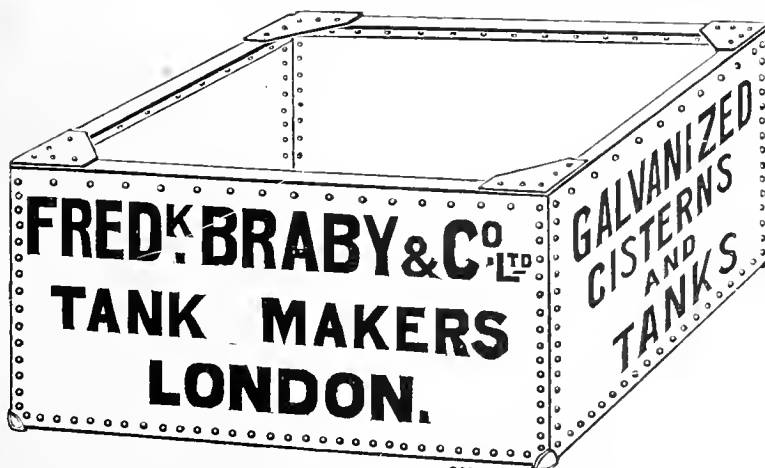
(Accepted.)

WOLVERHAMPTON.—For glazing boiler-house, for the corporation:—

Mellowes and Co. (accepted) . . . £266 0 0



ALL OUR CISTERNS,
TANKS & CYLINDERS



ARE BRANDED
"SUN" BRAND



LATEST PRICES.

N.B.—All prices must be regarded as merely approximate for the present, as our usual sources of information are in many cases failing us.

TIMBER.

Owing to stoppage of supplies all prices have advanced considerably, and are controlled by the Director of Materials.

IRON.

Rolled Steel Joists, English.....	
Compound Girders, Ordinary.....	
Sections.....	
Compound Stanchions.....	
Angles, Tees, Channels and Flitch.....	
Plates.....	
Wrought-Iron Girder Plates.....	
Steel Girder Plates.....	
Steel Sheets (Single or Double).....	
Steel Strip.....	
Basic Bars.....	
Mild Steel Bars.....	
Steel Bars, Ferro-Concrete.....	
Quality (basis price).....	

Prices controlled
by Ministry of
Munitions.

OTHER METALS.

A licence must be obtained from the Director of Materials (A. M. 2(E)), Hotel Victoria, Northumberland Avenue, S.W., and should accompany orders for quantities over 1 cwt.

	Per ton.	Per ton.
Lead Water Pipe, Town.....	*£39 0 0 to	
Country.....	*40 0 0	
Barrel Pipe, Town.....	*40 0 0	
Country.....	*41 0 0	
Lead Pipe, tinned inside, Town.....	*42 0 0	
Country.....	*43 0 0	
Lead Pipe, tinned inside and outside.....	*45 10 0	
Country.....	*46 10 0	
Composition Gas-Pipe, Town.....	*43 0 0	
Country.....	*44 0 0	
Lead Soil-pipe (up to 4 in.), Town.....	*42 0 0	
Country.....	*43 0 0	
(Over 4 in. £1 per ton extra.)		
Lead, Common Brands.....	26 0 0	
Lead, 4 lb. sheet, English.....	38 10 0	
Lead Shot, in 28 lb. bags.....		
Copper Sheets, Sheathing & Rods.....	168 0 0	170 0 0
Copper, British Oaks and Ingots.....	147 0 0	150 0 0
Tin, English Ingots.....	365 0 0	
Do., Bars.....	186 10 0	187 10 0
Pig Lead, in 1 cwt. Pigs. Town.....	33 12 6	34 12 0
Sheet Lead, Town.....	38 10 0	
Country.....	39 10 0	
Galvanne White Lead.....	25 10 0	
Refined Red Lead.....	42 0 0	
Sheet Zinc.....	138 0 0	
Sheet.....	93 0 0	110 0 0
Old Lead, against account.....	25 0 0	
Tin.....	18 5 0	
Cut nails (per cwt. basis, ordinary brand).....	1 10 0	
* For 5 cwt. lots and upwards.		

BRICKS.

Sale, Purchase for use, of all Bricks exceeding 20,000 in number is now forbidden by the Minister of Munitions except by license of the Controller of Bricks, to whom all applications for permits must be made at Whitehall Place, S.W., marked "Building Brick Permit."

(All prices net.)

First Hard Stocks.....	£4 0 0	per 1,000 alongside, in
Second Hard Stocks.....	3 15 0	" " " " " " " "
Third Hard Stocks.....	1 14 0	" " " " " " " "
Mild Stocks.....	2 2 0	" " " " " " " "
Picked Stocks for		delivered at
Facings.....	3 5 0	raily, station.
Flettons.....	2 10 0	" " " " " " " "
Best Fareham Red.....	4 0 0	" " " " " " " "
Best Red Pressed.....		" " " " " " " "
Ruabon Facing.....	5 15 0	" " " " " " " "
Best Blue Pressed.....		" " " " " " " "
Staffordshire.....	6 5 0	" " " " " " " "
Ditto Bullnose.....	6 10 0	" " " " " " " "

WHITE AND COLOURED GLAZED BRICKS

WHITE IVORY AND SALT GLAZED (PER 1,000).

Stretchers.....	£ s. d.	
Headers.....	14 17 6	
Quoins and Bullnose.....	14 7 6	
Second quality £1 per 1,000 less.	18 7 6	

OTHER COLOURS.

Best.....	£ s. d.	Seconds.	£ s. d.
20 7 6.....		15 7 6.....	
19 17 6.....		14 17 6.....	
23 17 6.....		18 17 6.....	

MOULDED BRICKS.

Stretchers and headers, 8d. each (plus 25%).
Internal and external angles, 1s. 2d. each (plus 25%).
Majolica and soft glazed stretchers and headers,
£25 7s. 6d. per 1,000.
Majolica and soft glazed Quoins and Bullnose,
£30 s. 6d. per 1,000.

SAND AND BALLAST.

Thames Sand.....	s. d.	
Ballast.....	12 6	per yard, delivered.
Pit Sand.....	12 6	" " " "
Best Washed Sand.....	14 0	" " " "

CEMENT AND LIME.

Best Portland Cement.....	s. d.	£ s. d.	Per ton.
Ground Blue Lias Lime.....	55 0 to 58 0	delivered.	
Exclusive of charge for sacks.	33 6	at depot.	
Grey Stone Lime.....	47 0	per ton.	
Stourbridge Fireclay in sacks 37s. 6d. per ton at depot.			

STONE.

Yellow Magnesian, in blocks.....	per foot cube	£ s. d.
Red Mansfield, ditto.....	"	0 3 3
White Mansfield, ditto.....	"	0 2 9
Red Corsehill, ditto.....	"	0 2 9
Darley Dale, ditto.....	"	0 2 6
Grienshill ditto.....	"	0 2 4
Clooseburn Red Freestone, ditto.....	per foot cube	0 2 2
Ancoaster, ditto.....	"	0 2 0
Chilmark (in truck at Nine Elms).....	"	0 1 10 1/2
Hard York, ditto.....	"	0 3 10
Do. do. 6 in. sawn both sides.		
landings, random sizes.....	per foot cube	0 3 3
Hard York, 3 in. slab sawn two sides, random sizes.....	per foot cube	0 1 3

OILS.

Rapeseed, English pale, per tun	£28 15 0	to £29 5 0	
Ditto, brown	26 15 0	" 27 5 0	
Cottonseed, refined	29 0 0	" 30 0 0	
Olive, Spanish	39 10 0	" 40 0 0	
Seal, pale	21 0 0	" 21 10 0	
Coconut, Cochin	46 0 0	" 46 10 0	
Ditto, Ceylon	42 10 0	" 43 0 0	
Ditto, Mauritius	42 10 0	" 43 0 0	
Palm, Lagos	32 5 0	" 33 5 0	
Ditto, Not Kernel	35 0 0	" 35 10 0	
Oleine	17 5 0	" 19 5 0	
Sperm	30 0 0	" 31 0 0	
Linseed Oil	per gal.	0 8 7	Controlled.
Baltic Oil	"		
Turpentine	"	0 11 3	"
Putty (Genuine Linseed Oil)	per owt.	1 2 0	"

TILES.

Plain red roofing tiles.....	s. d.	Div'd. at
Hip and Valley tiles.....	62 6	per 1,000 ry. sq.
Brosey tiles.....	5s. to 9	per doz.
Ruabon red, brown, or brindled ditto (Edwards).....	75 0	per 1,000
Ornamental ditto.....	80 6	" " "
Staffordshire (Hanley) Reds or brindled tiles.....	75 6	" " "
Hand-made sand-faced.....	80 0	" " "
Hip tiles.....	5s. to 9	per doz.
Valley tiles.....	5s. to 9	" " "

SLATES.

No reliable quotations for slates seem obtainable at present, and architects and builders will do well to specify and use some of the excellent substitutes which have found favour of late, partly as a consequence of the unsatisfactory condition of the slate industry, as well as the result of their greater durability and other recommendatory qualities. Prices of some of the best of these are as follows:—

ASBESTOS ROOFING TILES, supplied by the British Uraltite Co., Ltd., 95, Gresham Street, E.C. From £4 14s. per 1,000, 9 in. by 9 in., 400 tiles per square of roof covered, price per square. 37s. 8d., to £33 8s. per 1,000, 24 in. by 24 in., 34 tiles per square of roof covered, price per square, 22s. 3d.

ALLIGATOR ROOFING, supplied by the British Roofing Co., Ltd., 11, John St., Crutched Friars, E.C., in rolls of 216 feet super, with the necessary mastic and nails for fixing: 1 ply, 19s. per roll; 2 ply, 26s. per roll; 3 ply, 33s. per roll.

"POLITE." Made by Bell's Asbestos Co., Ltd., Southwark Street, S.E. Standard tiles in red, blue, and grey colours, carriage paid to nearest railway station, 15 1/2 by 15 1/2 in. Red, £14 3s. 3d. per 1,000; grey or blue, £12 15s. per 1,000. Approximate prices per square, fixed complete to roof-boards or battens:—Red, £1 10s. 9d.; grey or blue, £1 8s. 9d. At present above prices are subject to a premium of 17 1/2 to 33 1/2 per cent. in consequence of rise in prices of material and other war exigencies.

ROK ROOFING. Made by D. Anderson and Son, Ltd., Lagan Felt Works, Belfast, and Roach Road Works, Old Ford, London, E. Prices and particulars in new booklet "V," to be had on application.

GLASS (IN CRATES).

English Sheet Glass 15 oz.	21 oz.	26 oz.	32 oz.
Fourth.....	7d. .. 8d. .. 9d. .. 10d.		
Third.....	7 1/2d. .. 8 1/2d. .. 9 1/2d. .. 10 1/2d.		
Fluted Sheet.....	7d. .. 8d. .. 9d. .. 10d.		
Hartley's English Rolled Plate.....	7 1/2 in. .. 8 in. .. 9 in. .. 10 in.		
Figured Rolled.....	6d. .. 7d. .. 8d. .. 9d.		
Roussine.....	6d. .. 7d. .. 8d. .. 9d.		
Stippolyte.....	6d. .. 7d. .. 8d. .. 9d.		

Mr. G. H. Allison, borough surveyor of Louth, who, though over military age, volunteered for service over a year ago, but was rejected, has now received his papers, and will join up.

The following is the formula for what is known as the United States Government white-wash mixture, which also acts as a fire-retarding coating over interior wooden surfaces:—Slake a half-bushel of quicklime with boiling water, keeping it covered during process, strain and add one peck of salt dissolved in warm water; put 3 lb. ground rice in water and boil to a thin paste; 1 lb. of powdered Spanish whiting; 1 lb. of clean glue dissolved in hot water. Mix well and let it stand for several days. Keep the mixture in a kettle or receptacle, and apply as hot as possible with a whitewash or paint brush.

TO ARMS!

LONDON ARMY TROOPS COMPANIES, VOLUNTEER ENGINEERS.

Headquarters: Balderton Street, Grosvenor Square, W.1.

CORPS ORDERS BY LIEUTENANT-COLONEL C. B. CLAY, V.D., COMMANDING.

CAPTAIN OF THE WEEK.—Captain W. Darley Bentley.

NEXT FOR DUTY.—Captain E. G. Fleming.

MONDAY, JULY 1.—Adjutant's Technical Lecture (Earthworks), 6.30—7.30. Signallers, 6.30—8.30.

TUESDAY, JULY 2.—No. 3 Company, Infantry Drill, 6.30—7.30. Knottling and Lashing, 7.30—8.30. Recruits' Drill, 6.30—8.30.

WEDNESDAY, JULY 3.—No. 1 Company, Infantry Drill, 6.30—7.30. Knottling and Lashing, 7.30—8.30. Recruits' Drill, 6.30—8.30.

THURSDAY, JULY 4.—No. 2 Company, Infantry Drill, 6.30—7.30. Knottling and Lashing, 7.30—8.30. Recruits' Drill, 6.30—8.30. Signalling Section, 6.30—8.30. Ambulance Section, 6.30—8.30. Band Practice, 7.0.

FRIDAY, JULY 5.—Adjutant's Technical Lecture (Earthworks), 6.30—7.30.

SUNDAY, JULY 7.—Commandant's Parade at Waterloo Station, 8.45 a.m. Work: Revetments at Heywood. Dress: Service Dress, Drill Order, Haversacks, and Water-bottles. Mid-day and tea ratios to be carried.

SPECIAL NOTICES.—All Drills will take place at Headquarters unless otherwise stated.

The M.O. will attend for the Examination of Recruits on Thursday evening at 6.30.

Summer Camp.—This Camp will be held at Esher from August 3 to 11, both dates inclusive.

By order,

C. HIGGINS, Captain, R.E., T.F., Adjutant
June 29, 1918.

TO CORRESPONDENTS.

We do not hold ourselves responsible for the opinions of our correspondents. All communications should be drawn up as briefly as possible, as there are many claimants upon the space allotted to correspondents.

It is particularly requested that all drawings and all communications respecting illustrations or literary matter, books for review, etc., should be addressed to the Editor of the BUILDING NEWS, Effingham House, 1, Arundel Street, Strand, W.C.2, and not to members of the staff by name. Delay is not infrequently otherwise caused. All drawings and other communications are sent at contributors' risks, and the Editor will not undertake to pay for, or be liable for, unsought contributions.

When favouring us with drawings or photographs, architects are asked kindly to state how long the building has been erected. It does neither them nor us much good to illustrate buildings which have been some time executed, except under special circumstances.

Handsome Cloth Cases for binding the BUILDING NEWS, price 2s., post free 2s. 5d., can be obtained from any Newsgent, or from the Publisher, Effingham House, 1, Arundel Street, Strand, W.C.2

RECEIVED.—J. McK.—W. H. R.—H. H. G.—L. B. and Sons, Ltd.—T. H. B.—H. A. C.—I. C. S.—C. J. and Co.

FACTOR.—Yes.

D. T. M.—Thanks; no.

R. E.—Yes, it brief. 2. No.

DILAPIDATIONS.—Our opinion, or any other, would be worthless, given on such information. Your only course is to employ a competent surveyor.

Mr. Charles Turner, of Oakhurst, East Grinstead, Sussex, surveyor, has left £50,378.

During excavation work in Cyrenaica (Tripoli) two statues have been found, one representing a Roman matron of the second century, while the other is a winged figure of victory. A new temple containing a colossal statue of Demeter with long inscriptions belonging to the third century B.C. has also been discovered.

At the last meeting of the executive committee of the London Labour Party the following resolution was unanimously adopted:—That the executive committee of the London Labour Party calls the attention of the President of the Local Government Board to the fact that, despite the party's repeated requests since January, 1917, the London County Council has declined to take any positive action with respect to London housing and town planning; in these circumstances the committee earnestly requests the President immediately to call a conference of housing authorities in Greater London, as suggested to him by the party deputation on March 21, 1918, for the purpose of making businesslike arrangements for plans to be prepared for adoption immediately upon the conclusion of the war.

